

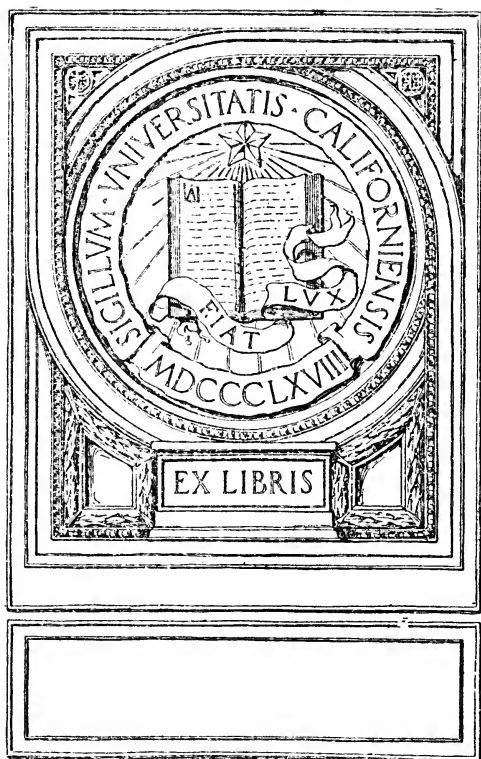


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A STUDY OF
NORTH APPALACHIAN
INDIAN POTTERY

CHRISTOPHER WREN
PLYMOUTH, PA.

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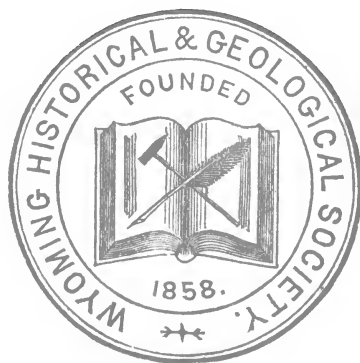
Looking up the Susquehanna river from the west end of Wyoming Valley, Pa.: (a) West Nanticoke; (b) Shawnee Flats; (c) Nanticoke Flats. The bluff directly back of West Nanticoke, was connected with the hill from which this picture was taken, before the river found its passage out of the valley on the extreme left. (From History of Wilkes-Barre and Wyoming Valley, by courtesy of the author, Oscar J. Harvey, Esq.)

A STUDY OF
North Appalachian Indian Pottery

BY

CHRISTOPHER WREN

PLYMOUTH, PA.



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PREFACE.

"Man's inhumanity to man,
Makes countless thousands mourn."

—*Burns.*

In any matter of controversy between our own country and any foreign power, in which our men folk would be called upon to rally to the colors, there can be no shadow of doubt as to their quick and willing response, for we are a patriotic people.

But in our love of our country, as a whole, may we not at times fail to allow our affections to go out warmly enough to our Homeland, the mountains amid which we were born, the valleys in which we have lived since childhood and to the people whom we have come to know well only after long association with them?

Many of us seem, at least, to grip but lightly on these things by the apparent unconcern with which we sever all these ties and go out among strangers in strange places. Has not one of the strongest characteristics of our race always been its warm attachment to the home the family and the homeland? Has not our influence upon the history of the world been largely because of this element in our characters?

So this paper has been written, about a part of our goodly State of Pennsylvania, as a contribution to our knowledge of the people to whom this was Home in times when our people were aliens to the soil; and because the writer believes that our "home acre" has as much interest, of this kind, as the other parts of our great land, to which so much attention has been given and about which so much has been said. And, underlying all these considerations, that our people may come to know the real American Indian better, and that, understanding him better, may do him more even-handed justice than he has heretofore received.

The writer believes that the American Indian has the elements of a sturdy manhood in him, and, if given proper opportunity, that he will take his place side by side with the rest of us, which is his proper place, in this The Land of his Fathers.

THE AUTHOR.

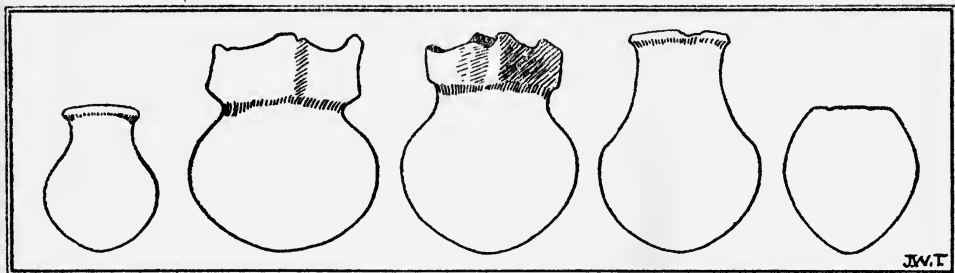
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A STUDY OF NORTH APPALACHIAN INDIAN POTTERY.*

BY CHRISTOPHER WREN,
Curator of Archeology of this Society.

READ BEFORE THE WYOMING HISTORICAL AND GEOLOGICAL SOCIETY,
APRIL, 1913.



In January, 1905, the writer read a paper before this Society on "The Aboriginal Pottery of the Wyoming Valley Region," which was printed in Vol. IX of Proceedings and Collections.

In that paper the general features of the baked clay ware of the region were discussed, and it was illustrated with fragments only of the pottery, no whole vessels, not already illustrated, being available.

Since 1905 further attention has been given to the study of the subject, and the results of such study are given in this paper. The larger field of the North Appalachian region is taken in, which, roughly speaking, may be defined as the eastern two-thirds of the State of Pennsylvania, northern New Jersey and several of the southern tier of counties of the State of New York, avoiding, however, what is understood to be strictly Iroquoian territory.

The illustrations are very largely of whole vessels, and the exhibit, with but few exceptions, includes all the complete specimens known to be in the region by the writer, at this time. They number about thirty-five examples.

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EARTHENWARES.

The general subject of mankind's work in burned and baked clays and earths is a very interesting one, and we have only to look at a well set dining table to be impressed with the important place which such wares occupy in our domestic economy.

The inclination "to play in the dirt" shows itself at a very early age in most children, in their love of making mud pies and of building houses and trees and ships, which seem very real to their own minds. This taste may be a harking back to the period in our history when our forebears lived near the soil, and a little nice earth did not seem unclean to them. In the same way, it may be, that the pleasure which some of us experience in the smell of a wood fire is a subconscious recollection of the time when mankind dwelt in caves and holes in the ground, in which the air was charged with smoke, as but slight attention was given to ventilation; or the memory may have come down to us from that later time when, in the castle of the chief of the clan or the lord of the manor, a great fire was built on the floor of the main hall, the stag, which was the spoil of the chase, was brought in and roasted, the hall was lighted by the fire and the torches on the walls, the minstrel was called in, and, to the thrumming of his harp, recited the deeds of the clan or people, and the night was given over to wassail, feasting and song. At such a time the smoke laden air was filled with the mirth and laughter of "fair women and brave men".

It may be that the ancestors of some of us were in at the feast among the clansmen, or men-at-arms of the Baron, or peradventure, in some cases as Chiefs or Barons.

At any rate the love of fashioning earths and clays into different shapes and forms is an old one and almost universal among mankind.

No paper on earthenwares, as we know them, would be complete without some mention, at least, of two men who

were the most influential in bringing it to its present state of perfection—Bernard Palissy of France and Josiah Wedgwood of Staffordshire, England. A little space is therefore taken at this place to speak briefly of these two master potters.

At first blush we are apt to think that the making and use of fine porcelain and china wares by our ancestors in Europe has been the practice for a long time; but, when we read the lives of Palissy and Wedgwood, we find that this was not the case, and that opaque earthenware of the nature of common crockery, with very little, or inferior, glazing, was used by Europeans until a comparatively recent date.

BERNARD PALISSY, THE HUGUENOT POTTER.

In looking for a biography of Bernard Palissy, in the Osterhout Library, the writer had the pleasure of finding a copy of the identical edition which he read when a boy of about ten years of age, and it seemed like meeting again with an old friend. The following brief sketch of this remarkable man is taken from that biography.

Bernard Palissy was born, of parents in humble circumstances, about the year 1510, in the Province of Perigord, France. His father was a painter on glass and taught his son the same craft, in which he became expert and acquired a good knowledge of colors and also became skilled as a draughtsman. Besides his work in improving the pottery ware of northern Europe, Palissy worked some at portrait painting and as a land surveyor at different times during his life.

He read all the good books he could find and by study and original research gained a knowledge of chemistry, geology, botany and other branches of natural history.

The science of chemistry was little understood in his day, and it was not until many years afterwards that it was reduced to anything like the exact science as we know it to-day. It may be said that this man was compelled to

do the best he could, in the exploration of a new field, with the very meagre means at his command.

The secret which Palissy sought to discover was the applying of a white fused enamel or glaze to the surface of the opaque earthenwares which were in common use in Europe in his time. If he had but known he might have been saved all his years of hardship by a visit to Northern Italy, where they were in possession of the process which he sought.

The method followed by Palissy, in his researches, was to mix the materials, with which he experimented, in varying proportions, making a memorandum of the formula used in each experiment.

France, at the time in which Palissy lived, was torn and agitated by violent religious dissensions, in which he became embroiled. With the religious troubles into which he got, because of his adherence to the Protestant party, which was in a minority, the extreme hardships he underwent in preparing his materials for his experiments, all of which had to be ground in a hand mill to a very fine powder, and the great difficulty he found in getting enough money to carry on his work, Palissy suffered such hardships that it would seem as though no man could outlive them. In firing his kilns to burn his ware, work which he could not trust to anyone else, he frequently went without sleep for several days and nights at a time, as a failure to keep up the heat in the furnace would have spoiled his whole work for weeks and months.

Palissy studied carefully the whole range of earths and materials until he discovered what was suitable for his purpose. He kept minute details of all his experiences in a sort of diary, some of which makes very interesting reading and from which quotations are given:

"Between the different kinds of argillaceous earths there is so great difference, the one from the other, that it is impossible for any man to be able to relate the contrariety

that is among them. Some are sandy, thin and white, and, for these reasons, a great heat is needed before they are baked properly.

"Such kind of earth is very good for making crucibles, because it endures a very great heat; there are other earths which, on account of the metallic substances that are in them, bend and liquefy when they endure great heat. I have seen some tiler's furnaces of which the arches were in some sort liquefied, that the vaults were quite full of pendant forms, as you see the icicles from the gutters of the houses during frost.

"There are other kinds, which, when they are baked, whether in pottery or bricks, it is needful that the master of the work take good heed, in drawing the furnace, lest it take cold, and, what is more, those who work with it are constrained to stop all the vent holes of the furnace as soon as the batch is baked, because if it felt the very slightest wind in cooling, the pieces would all turn out cracked.

"There are other kinds of earth which are black in their essence, and when baked are white like paper; other kinds are yellow and when baked are red.

"There are some kinds which are of an evil nature, because among them are little stones, which when the vessels are baked, the little stones which are in said vessels are reduced to lime, and suddenly, when they come to feel the humidity of the air, they swell and cause the said vessel to split in pieces where they are enclosed, and this is because the stones are calcined in the baking, and by this means many vessels are lost, however great the labor one may have employed upon them.

"There are other kinds of earth which are very good and very well endure the heat; but they are so vain and lax that one cannot make any high vessels of them, because, when one would form them a little high it sinks down toward the bottom, not being able to sustain itself.

"It is a general rule that all argillaceous earth, and especially the finest, are subject to crackle at the fire before they are baked; for this reason those who work with them are obliged to add to the fire little by little, in order to chase the moisture which is in the work; so that if the pieces which one bakes are thick, and there are many of them, it will be necessary to maintain fire sometimes three or four days and nights, and if the work has once begun to heat, and he who shall conduct the fire do fall asleep, and suffer the work to cool before it be baked in perfection, there is no help, but the work is lost. And by such accident many potters have had great losses. * * *

"I once saw certain modelers of images, instructed in the art of treating earth by hearsay only, and sufficiently new in the knowledge of earths, who, after having made some images, put them in the furnace to bake them, according to their understanding. But when they began to put on the large fire, it was a pleasant thing enough (though not a cause for laughter to us all) to hear the images burst, and make a battery between themselves like a multitude of huguebusades and discharges of cannon. And the poor master was very vexed, like one who has been robbed of his purse; for, the day being come for drawing the images out of the furnace, the furnace was no sooner opened than he saw some with cracked heads, others with shattered arms and legs broken; so the poor man, having drawn his images, was much disturbed, and had trouble enough to find the pieces, for some were as small as flies, and not being able to get them together, he was obliged to make knobs for flags and other matters out of said images. * * *

"Once I had gathered some of the earth from Poictou, and had labored upon it for the full space of six months before I had the batch complete, because the vessels that I had made were very elaborate and of a somewhat high price. Now, when making the said vessels of the earth of Poictou, I made some of them of the earth of Xaintonge,

on which I had worked for some years before, and was sufficiently experienced in the degree of fire which was needed by said earth, and thinking that all earths might bake at a like degree of heat, I baked my work which was of earth of Poictou among those of Xaintonge, which caused a great loss, inasmuch as the work of Xaintonge being baked sufficiently, I thought that the other work would be so also, but, when I came to enamel my vessels, those feeling the moisture, it was an unpleasant joke for me, because as many vessels as were enameled came to dissolve and fall to pieces, as limestone would do soaked in water, and at the same time the vessels of Xaintonge were baked in the same furnace and at the same degree of heat and turned out very well. You see, then, how a man who labors in the art of earth is always an apprentice, and because of the unknown nature of the diversities of earths."

* * *

After Palissy had experimented for many years, he one day burned some ware with success, but found that he could not identify the formula which he had used, so he had to continue his experiments for some years longer before he attained final success.

The rules laid down by Palissy, in his quaint but clear language, contain much of the information which any worker in baked earths must possess, even in our day, to produce successful results. This man lived at a time before analytical or synthetical chemistry has been reduced to a system, and he was thus a pioneer in a new field, groping about in the dark to attain that which he knew could be done, because he had seen actual specimens of it.

After Palissy had reached success the King and wealthy classes of France became his patrons and he made many large figures and works for them to adorn the gardens and grounds of their palaces.

Compared with the artistic pottery and china wares of our day, it has been said that the work of Bernard Palissy

had little artistic merit, but such criticism does not at all detract from the important work which this man did, in opening up a new field, which those who have come after him have merely enlarged.

Palissy had difficulty at times in getting enough wood to keep up the fires in his kilns, in fact in one instance he fed some of his household furniture to the furnace rather than allow the heat to go down. He says that the price of wood was very high in France, it costing the peasantry one-sixth of their income for fire wood.

Upon seeing an entire forest cut down to raise money for its owner, Palissy, at that early time, advanced the doctrine of the conservation of natural resources by suggesting the planting of a young tree when an old one was cut down. He said: "Men cannot prosper by the blood of trees."

Because of his religious beliefs, in which he was very firm, he was at last thrown into the Bastille. The King visited him there and made an appeal to him that he modify his views, saying: "Otherwise I shall be forced to leave you in the hands of your enemies." "Sire," he answered, "I am willing to give my life for the glory of God, and if I felt any regret, it would have been extinguished when I heard my great Sovereign speak the words 'I am forced', for neither you, nor those who force you, can force me, since I know how to die."

Palissy was not executed, however, but died in penury and misery in the Bastille in the year 1590 at about the age of ninety-one years.

Palissy wrote much on a number of subjects, among them agriculture, natural philosophy and religion, besides his writings on the art of making earthenwares. Lamartine, the noted French critic, rates his literary work as of a high order, and there seems to be no doubt that Bernard Palissy, the Huguenot Potter, was a very remarkable man.

JOSIAH WEDGWOOD, OF ENGLAND.

Josiah Wedgwood was born at Burslem, in Staffordshire, England, in the year 1730.

His father and other members of the family were potters and at the time when Josiah was born had been engaged in that industry for several generations. Wedgwood learned the trade of his father and soon commenced to make experiments, with a view to improving the wares that were manufactured in Staffordshire, which he continued to do to the end of his life with marked success.

He took up the study of chemistry, which, even at that late date, was not the exact science which it has become in our day. His acquired knowledge of chemistry assisted him very much in his understanding of the clays and earths used in pottery making. He went to Devonshire, Dorsetshire and Cornwall to procure suitable clays for his experiments, which he brought together at his pottery in Staffordshire, to produce the new varieties of ware which he originated. During his lifetime he introduced at least six new kinds of ware, and it may be almost said that he created a new industry in England.

In the year 1761 Wedgwood received a commission from the Queen of King George III. to make for her a set of cream colored dishes decorated in gold gilt, which he did so successfully that she was very highly pleased. This ware, which was a discovery of Wedgwood's, took the name of Queensware, and we have it to-day in our ironstone china.

That the Queen of England should be much pleased with this ware is an indication that the art of china making, in England, was not yet in a state of much advancement.

Queensware became very popular throughout England, so much so that it displaced the wares of Holland, France and Germany.

Wedgwood established a new pottery under the name of "Etruria" about the year 1779, after he had made great progress in his art. Writing to a gentleman whom he

wished to engage in business with him at this time he said: "I am going on with my experiments upon earths, clays, etc., for different bodies, and shall next go upon glazes. Many of my experiments turn out to my wishes, and convince me, more and more, of the extensive capability of our manufacture for further improvement. It is at present in a rude and uncultivated state and may be easily brought to much greater perfection. Such a revolution, I believe, is at hand, and you must assist and profit by it."

He first invented the ornamenting of wares with colored glazes of various kinds. Adapted the engine lathe to the working of clay, and introduced it into the pottery manufacture.

He improved the artistic merits of his ware, besides the materials of which they were made, and employed the best of artists, so that his products became very popular. He received a large patronage from the wealthy and titled classes of Great Britain for special pieces and sets of his ware.

In prosecuting some infringements of his patents before the courts was said that "he had enriched the pottery of his country with many inventions and improvements, whereby pottery had been raised from a low and declining state to its present condition of one of the most flourishing manufactures in his Majesty's Kingdom."

The Hon. William E. Gladstone, in his address, delivered at the dedication of The Wedgwood Institute, at Burslem, in October, 1863, said about Josiah Wedgwood, among other things: "His most original characteristic merit lay, as I have said, in the firmness and fullness with which he perceived the true law of what we may call industrial art, or, in other words, the application of the higher art to industry; the law which teaches us to aim first at giving to every object the greatest possible fitness and convenience, and next making it the vehicle of the highest degree of beauty, which, with that fitness and convenience, it will

bear ; which does not, I need hardly say, substitute the secondary for the primary end, but which recognizes, as part of the business of production, the studies to harmonize the two.

"To have a strong grasp of this principle, and to work it out to its results in the details of a vast and varied industry, is a praise high enough for any man, at any time, and at any place. But was higher and more peculiar, as I think, in the case of Wedgwood, than in almost any other case it could be."

The life experiences of Bernard Palissy and Josiah Wedgwood are seen to have been very, very different. Palissy died in the miserable surroundings of a sixteenth century prison, poor and forgotten. Wedgwood, during his lifetime, reached a position of independent wealth and also attained high social distinction.

The biographies of both of these men, whose life-work was so beneficial and useful to mankind, are in the Osterhout Library and will well repay the time spent in reading them.

CHRONOLOGY OF POTTERY AND CHINA MAKING IN EUROPE.

To bring the subject of pottery and china making, in Europe, before the reader's eye at one time, the following table of dates is given, which shows its progress from a crude to a perfected art.

The art of making translucent china wares had been practiced among the Chinese for a number of centuries before it was introduced into Europe.

Some ordinary clay pottery has been made in Europe from prehistoric times. But the idea that fine earthenwares have been manufactured there for a very long period proves, on examination, to be a mistake.

1518—In this year the first translucent china was brought to Europe from China by the Portuguese.

1530—As late as this date the art of making common opaque china ware in England and continental Europe was in a very crude state.

1630—The fictile and plastic arts were but little improved up to this time, but as tea was introduced into Europe about this year, and there was a need for cups and saucers, the ware began to improve.

1700—Up to this time but little earthenware, except of very inferior quality, was made in Great Britain.

1700 to 1800—At the same time as the Germans of Europe were making and using the Sgraffiatto ware, this ware of good quality was being made from native clays by the "Pennsylvania Dutch" people of our own State.

1575 to 1587—The first successful efforts to make translucent porcelains were carried on at Florence, Italy, by Francisco De Medici, but it was soon discontinued, and was not revived until about a century later.

1664—Claude Reverend made porcelain in Paris, France, about this date.

1695—China ware was also made at St. Cloud, France, in this year.

1700—About this year the first manufacture of the celebrated Dresden ware was successfully carried on by Frederick Bottger.

1700—About this time it became fashionable for the Monarchs of Europe to be patrons of porcelain works. There were factories in Holland, Denmark, Germany and Russia. Italy had a factory as early as 1735.

1745—A porcelain factory was operated at Chelsea, England.

1750—The "Crown Derby" ware was first made with success in England.

1751—The Royal Worcester ware was first made in England.

1745—The manufacture of Sevres china was begun in France, under the patronage of the King, by Charles Adam, because of the great popularity of the English "Chelsea" ware.

1766—The first hard natural porcelain ware, in England, was made at Bristol.

So much has been said about the manufacture of fine earthenwares, in Europe, to bring out the fact that it is a comparatively recent art among Europeans, although the Chinese practiced it much earlier.

That there may be no misapprehension, the explanation is made that the writer is aware of the fine works in earthenware produced by the Greeks and Romans, but it was principally from the work of Palissy and Wedgwood that we have inherited the art as we have it to-day.

It is altogether probable that, at the time when some of the Indian vessels illustrated in this paper were made, the dishes and cooking utensils of the common peoples of Europe were not of a much better quality, not at all like what we have at the present day.

When we understand the limitations under which the American Indian labored, it does not seem too much to say that he had made fair progress in the art of making baked clay wares, without suggestion or assistance from outside influences. It is, I believe, the opinion of the best authorities on the subject, that the wares being discussed in this paper were made before the Indian had had any contact with the white race.

THE EARTHENWARE OF THE REGION.

"I remember stopping by the way,
To watch the potter thumping his wet clay;
And, with its all obliterated tongue,
It murmured, 'Gently, brother, Gently, pray.'"

—*Omar Khayyam.*

The paper read before this Society in 1883, descriptive of the pottery found in the graves at Athens, Pa., probably, illustrates more whole vessels of the North Appalachian region than have been shown in any single publication up to this time.

Mr. Arthur C. Parker, State Archeologist of New York, and Rev. Dr. William M. Beauchamp, of Syracuse, New York, both read papers before our Society, in which they

made incidental mention of the pottery of this locality. Prof. C. C. Willoughby, of Harvard University, contributed a paper on "Pottery of the New England Indians", to the Anniversary Volume to Prof. Frank W. Putnam, in which he described wares that seem closely related to specimens illustrated in this paper.

Several eminent authorities who have visited our rooms have expressed surprise that the pottery and stone implements in our collections do not show more specimens of distinctly Iroquoian types.

Under the circumstances, with the meagre data available for study, it is still true, as was said in a previous paper, that the writer has to depend very largely on his own observations in a discussion of the subject. It is hoped that something new may be shown in the present paper which will be helpful to future students who may take up the subject for more exhaustive study.

It may be remarked here that a large majority of the thirty-five vessels illustrated were found under rock shelters, where they were accidentally discovered, generally by hunters or woodsmen. It does not seem to have been a usual custom of the Indians occupying the territory, to bury pottery with their dead, although a few such instances have been noticed, as is mentioned elsewhere.

It is also true that the known places set apart as burial grounds are extremely rare, but the future may bring more of them to light. Under these circumstances, not knowing where to look for pottery, it is a more difficult matter to secure whole specimens in this region than it is in localities where the custom was to bury them with the dead.

In the cases where Indian bodies have been found, it has usually been the single isolated grave of a person who was, probably, buried near where he died.

The rarity of burials and grounds set apart for burial places, in a region where there is so much evidence of occupancy, may raise the interesting question whether the Sus-

quehanna river valley and adjacent territory were much used as a permanent dwelling place by particular tribes or peoples. And whether the greatly diversified implements and utensils found here may not be those of tribes who only temporarily visited the region for the purpose of hunting and fishing, or merely stopped off in their journeys, on the highway of the river, in passing from one section to another. (See also remarks under Steatite.)

Arthur C. Parker, in the paper read before our Society in 1909, on "The Influence of the Iroquois in Wyoming Valley," and printed in Vol. XI, says: "Several historians have called Wyoming Valley the southern door of the Iroquois Long House. The simile sounds well, but, as facts stand, the Iroquois never had a side door. The Wyoming Valley was the south lawn, the game preserve and asylum for dependent tribes. The Iroquois regarded this valley as their own by right of conquest, not by conquest sought as such, but one which resulted from the repeated and extended wars of the Susquehannocks, and their refusal to conform to the plans of the Iroquois League. The Susquehannocks, although of the same original stock, had been bitter enemies of the Iroquois, perhaps since the Mohawks came south from the Laurentian basin—but I am getting ahead of my story, since I prefer to deal with it from an anthropological rather than an historical view-point, for the Wyoming Valley is the centre of more converging lines than one marked Iroquois or Colonial, and the circle inscribed from this centre is one of wide influence in American anthropology, as it is also in American history."

THE REGION.

The region covered by this paper may be described as quite generally mountainous, with narrow valleys quite frequently coming down to the Susquehanna, the largest river in the field, nearly at right angles. It is a peculiarity of the Susquehanna that, along much of its course, it does not run

parallel with the trend of the mountains, which are on both sides of it, but frequently has its course directly through them.

There are a number of places, along the more than two hundred miles of its course southward through the State of Pennsylvania, at which the river valley is considerably widened by the hills falling back to a greater distance, thus making room for wider "bottom" lands. Such enlargements of the valley take place at points where the river has its course parallel to the surrounding hills and mountains.

THE WYOMING VALLEY.

The Wyoming Valley is about three miles wide and fourteen miles long, running nearly due east and west. The "back country" from the valley on all sides for a distance of forty miles, or more, is hilly and mountainous, and but thinly covered with soil suitable for cultivation.

The valley contains the only considerable area of bottom lands for a number of miles up and down the river. At the lower, or western, end of the valley, at West Nanticoke, the river passes out of the valley by having its course directly through the mountain. The floor of the valley has been forced up at this point by some convulsion of nature, forming a rocky barrier and a comparatively still pool of water above it for a distance of about four miles. In early days, before the debris from the coal mines had gotten into the river, this "pool" was seven or eight feet deep in many places, and was a favorable place in which all kinds of fish could live and thrive.

There are a number of other similar pools farther up the river, which were favorable fishing grounds.

These fishing grounds were all known to the American Indian and also to the white population which early came into the valley. There are deeds recorded in the county court house which make mention of shad fisheries, as transferred in the sale of lands.

The mountains round about were, perhaps, as favorable a habitat for many kinds of wild game as was to be found on the North American continent.

May it not be that, because of these very advantages, the Indian tribes, living adjacent to the region, were jealous of any single tribe owning or using the territory, within the boundaries of Wyoming Valley, as their exclusive lands. Is it too great a stretch of imagination to ascribe to the American Indian, a wisdom of statesmanship which would set apart this particular territory as a reserve, to be used intermittently by different tribes for hunting and fishing, under restrictions which were agreed upon between them?

That in this way Wyoming Valley was a kind of "no man's land" which served also the useful purpose of keeping antagonistic peoples from too close contact with each other, and thus removed, to a degree, causes for disputes and strife between them?

In his address before our Society, previously mentioned, Mr. A. C. Parker says: "The Iroquois themselves never occupied the valley in the sense of having lived here in settled towns. They controlled it for about a hundred years, and so greatly did they impress themselves upon its history that they will always have a place in it. To the Iroquois the Wyoming Valley was the asylum of conquered and dependent tribes, the mixing bowl of many nations, from many divergent points. It was the artery through which the Iroquois received the blood which has caused them to persist, as a people, and maintain their national identity."

So far as the writer is able to judge there are many specimens of pottery (potsherds) found in the region, of types used by the Iroquois, the Algonquins, and the tribes living in the country to the southward.

There has been considerable speculation as to whether the Algonquin or the Iroquois controlled and dominated the region, and the more the question is studied, the more

uncertain and complex it becomes. It is hoped that expert archeologists may see something in this paper which will throw some light on this question.

MAN'S NEED OF HOLLOW VESSELS.

It seems evident that mankind quite early in its history felt the great need of hollow receptacles in which to store their surplus foods, to protect them from the weather, the attacks of gnawing and preying animals, and to transport liquids and other necessities from place to place. Receptacles made of skins, woven fabrics, wood and bark were not suitable for these purposes, as they might be penetrated by sharp teeth or become saturated with water.

After the use of fire was learned and the art of cooking was somewhat understood, there would be the additional need of vessels which would resist the action of heat.

All over the world the evidence seems to be that man first adapted, baked and burned earths to serve his primitive needs of such receptacles. The use of metals came later, when man had traveled a long way in his knowledge of the manner of using fire.

Occasion is here taken by the writer to say that, the discussion of the pottery of the American Indian in this paper and his stone implements and weapons in other papers read before this Society, does not imply that he is more interested in the Indian than in the other races of mankind; but these discussions are rather intended to cover the study of universal primitive man, as we see him more near us in the Indian than in any other people. The American Indian also seems to be nearer to us in his processes of thought and manner of doing things than most of the other peoples of the world.

The pottery wares of the upper reaches of the Susquehanna and Delaware rivers, near the southern boundary of the State of New York, seem to be of better quality than those found further south. The clays of southern New

York are composed of disintegrated granitic rocks, and for this reason are better than those found in the coal regions of Pennsylvania, which are largely the result of the breaking down of the soft rocks of the coal measures. Good clays make good pottery ware.

POTTERY KILNS.

In the region being considered in this paper but very few places have been located from which the aborigines got the clay from which they made their pottery.

Mr. Millard P. Murray, of Athens, Bradford Co., Pennsylvania, gave the writer the following description of a place at which he thought the Indians had procured a pot-able clay and carried on the making of pottery.

Near the extremity of Tioga Point, where the Chemung river forms a junction with the Susquehanna, close to the edge of the water, on the Susquehanna side, he saw a number of years ago, a strata of light colored clay of a fine quality.

On the top of the bank were two circular platforms, about four feet in diameter, paved with stones and slightly depressed in the centre. These platforms showed marks of considerable use, he thought, as the places where the clays were mixed and tempered to fit them for use in pottery making. Built into the bank, adjacent to these platforms, were four steps laid up in stone, which gave evidence of having been much subjected to the action of heat. These steps he took to be the shelves on which the finished vessels were set up when undergoing the process of firing.

In the immediate vicinity was a great quantity of broken pottery, which was probably the fragments of pottery that had been broken in the burning.

About one-third of a mile up the river from these supposed pottery kilns was a village site which showed that it had been much occupied.

Mr. Murray examined this location carefully about the

year 1893, but since that time all signs of it have disappeared because of the erosion of the river bank by the action of the river.

This description, of anything which resembled a pottery, is the only one which the writer has been able to find in the entire region he is writing about. These kilns are more fully described on page 207 of Mrs. Louise W. Murray's work on "Old Tioga Point".

In the making of pottery different processes were used in the region, but this subject is not, as yet, fully understood. Some specimens are illustrated in which the use of the coil method of building up a vessel was used, but the evidence of the general use of this method is not great. It may be that the final surface finishing removed the marks of the coiling, and that it was more common than plainly appears.

As was the practice all over the world, the clays were tempered with some suitable material to fit them for use in making pots. We find that pulverized silica rocks, shells, soapstone, mica and some vegetable material were used in this region for this purpose. It seems that these people had made the discovery that soapstone and mica resisted the action of heat well, and these materials were used in the best and hardest vessels.

The vessels in which vegetable fibre was used became quite porous by the decaying of this substance from exposure to the weather. The purpose of using such material for tempering is more fully discussed under the heading of the uses of the pottery elsewhere in this paper.

It seems reasonably certain that the soapstone or steatite used as a tempering material was brought from the south, and the mica may have been brought from the vicinity of Philadelphia, where mica forms a large per centage of the composition of the rocks, as is seen in the material so much used for building stone.

There is no indication whatever that any effort was made

to produce a surface glaze or enamel, which tends to prove that these people had no knowledge of any such process. This is not, however, strange, when we remember that it was not known in Europe until about the year 1570, when Bernard Palissy rediscovered it, as is more fully described in the sketch of this man's life.

DESCRIPTION OF THE POTTERY OF THE REGION.

Hamlet: "To what base uses may we return, Horatio."

* * * * *

Hamlet: "Imperious Caesar, dead and turned to clay,
Might stop a hole to keep the wind away;
O that that earth, which kept the world in awe,
Should patch a wall, t' expel the winter's flaw."

The pottery ware of the North Appalachian region seems, in its general features, to be as good as that of other localities, where the people were subject to the same limitations as to material for use and who lived in the same stage of social advancement. No comparison is intended to be made with the wares of the southwestern United States, where the communities were for a long time living in permanent towns and had become fully acquainted with the clays they used, and had also taken on a higher degree of general culture because of a more highly organized state of society.

The tribes who made the wares under discussion are taken to have been much given to fishing and hunting as a means of subsistence, and were therefore migratory in their habits, not living for any great length of time in one locality.

For a better understanding of the pottery of the region the following brief description is given of some of the distinctive features of the ware illustrated in this paper, as the writer sees them:

MATERIALS USED.—The materials used in the making of the pottery seems to have been the clays of the locality, tempered with some suitable material, some of which were, no doubt, brought from distant points for this purpose.

By locating the sources from which different materials have been procured, evidence of intercourse and travel between various localities have been proven.

Within the borders of Pennsylvania different materials which have high qualities for resisting heat have been discovered in our day. Among them may be mentioned steatite, of inferior quality in Lancaster county, and near Easton, Northampton county; asbestos, talcs and fire clay in the Allegheny mountains in the central part of the State, and mica in the rocks near Philadelphia.

It is difficult to determine to what extent these different materials were known and used, when they are in combinations with other materials in a tempered clay.

FORM—In form the vessels of the region varied over quite a wide range, as may be seen in the illustration shown in this paper.

The sketch, Fig. 1, page 43, includes about all the features seen in vessels, and is given for purposes of reference when describing any particular feature. It may be said that in few instances do all the features show in any single specimen.

Handles, feet or any arrangement of the base of the vessel on which it would stand firmly are entirely wanting, the base being always rounded. These people had not yet discovered or invented the tripod.

The general proposition is true that all vessels were well proportioned and symmetrical, and have a certain dignity about them. In no instance is any feature emphasized or exaggerated so much as to give the vessel a distorted or grotesque appearance.

Attention is called to the resemblance of the side profile of Figs. 1 and 4, Plate No. 7, and several other specimens shown, to the profile of the typical birch bark canoe. This feature, somewhat modified, is also seen in Fig. 3, Plate No. 8. This was a favorite design and decoration for the pot rim in the region, and comes the nearest to a set pattern, frequently copied, known to the writer.

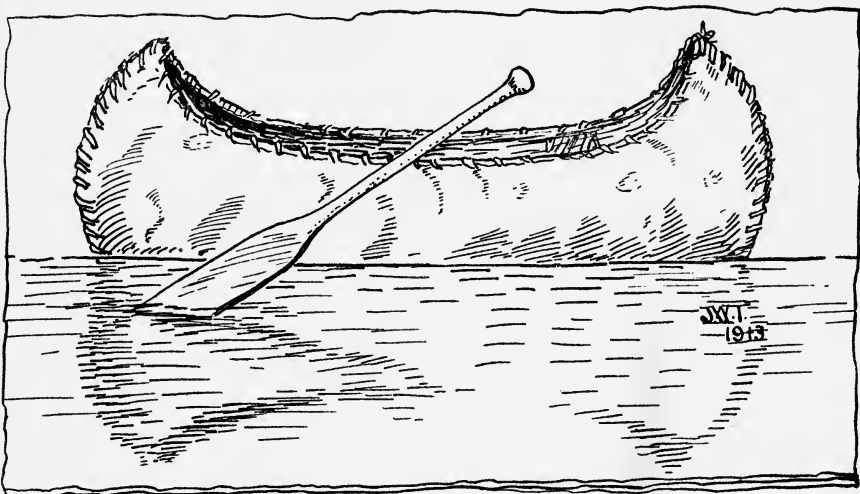


Fig. 4. Indian birch bark canoe. Compare with profiles of pot rims of Figs. 1 and 4, Plate No. 7.

May it not be that this shape of rim was suggested by the canoe, which among water craft has not been excelled, for gracefulness of outline and adaptability for passing smoothly through the water, in any part of the world.

It seems that good authorities accept it as a fact that some of the American Indians, by analogy, associated their food vessels with the preservation of their life and good health, by ministering to their needs and necessities. That they recognized this personal service to the owner of the vessel, by burying it with his body, after having first "killed" the vessel, by breaking a hole in the base of it, so that it should not be used for a like purpose by any other person.

Is it too great a stretch of imagination to think that, by a similar analogy, they may have associated their canoes, which were a medium for transportation, with their food vessels, which were helpful to them in their journey through life, and that they may have typified this resemblance by

copying the shape of the canoe in their pot rims? We white people see similarities in similar things in this way.

To place ourselves in the mental attitude toward things which the Indian had, to see things as he saw them, to get his point of view, seems to me, to have been one of the greatest difficulties in the way of our understanding each other.

It seems to be accepted that the Indian attributed qualities of virtues and faults to things about them which is quite foreign to the habit of thought of our people, and yet which, at times surprise us by the depth of thought and understanding which they indicate.

In his contact with the white people the Indian seems to have suppressed all of his thoughts, emotions and feelings and to have closed himself in, as a turtle closes himself in his shell.

In his attitude toward and treatment of the Indian the white man put on an air of "don't care a continental" and the Indian was pushed into the background.

In these latter days both peoples seem to be finding themselves, and the future holds out promise of better things.

Canassatego, the Onondago, acted as the spokesman for the six nations at the conference with the representatives of the Proprietaries at Philadelphia in 1742, at which a goodly slice of the State of Pennsylvania was sold for a price to the Proprietaries. The few hundreds of dollars worth of goods paid were acknowledged as a compliance with the terms of the agreement, but Canassatego said: "If the Proprietary had been here he would have given the Indians more, in consideration of their numbers and poverty. *They knew the value of their lands, they knew, too, that the land was everlasting and the few goods were soon worn out and gone.*" The bargain was closed, the price was paid, and it was a good legal sale, but the whole transaction showed that the Indian was not fitted to cope with the more astute white man in matters of this kind. Nevertheless, did not this

Indian orator, in his direct and simple language, express as full and clear an understanding of the values involved in the matter under consideration, as could have been shown by a Daniel Webster, a William E. Gladstone, or the most learned statesman or diplomat?

We may, therefore, be too apt to underrate the acuteness of the Indian mind and the fullness with which he sees some things.

In this view of the matter, any speculations or suggestions, no matter how far they may seem to be wide of the mark, which have the least basis of probability in them, may not be entirely worthless, but they may at times lead to important truths.

It is in this sense of speculation, that a number of things may be said in this paper, which at first blush may seem "like the two grains of wheat which were hid in the bushel of chaff," and "which are not worth the search."

This is said as an explanation of, and not as an apology for such things as may be written into this paper, and which are not to be taken at all as a finality of the matter discussed, as the writer has no pet theories to work out or fortify by specious statement. The ultimate truth is the object in view at all times.

Other variations in form will be seen in the numerous vessels shown, and it is hoped that they will be valuable and helpful to a better understanding of the whole subject. The initiated may see things in them which are unseen by the casual observer.

Most of the vessels of the region have a flaring mouth formed by the contraction at the neck just below the rim. This shape of mouth may have been made so as to form a seat or resting place for a cover with which to close the vessel and thus keep out ants and other insects from the contents of the vessel. Plate No. 27 is shown for the purpose of illustrating the flat disks which may have been used in this manner as pot covers. These disks were, without

much doubt, used as net sinkers, but they may also have had this secondary use.

The pointed base seen in so many of the vessels, as has been often said, may have been so made for the purpose of setting the vessel more firmly in the earth; these people may have also discovered that such a shape would better support the vessel when in a "green" state, during the process of building it up, as the tendency to collapse would be somewhat overcome by a better distribution of the strain on the walls of the pot, as it curved toward the base. Such a form of base would also, perhaps, better distribute the load when the vessel was filled and in use.

METHOD OF BUILDING A VESSEL.—The method in which vessels, especially the larger ones, were made, is not fully understood at this time and there does not seem to be anything in the specimens themselves which will assist to a better understanding of this process.

Several of the illustrations show fragments which plainly indicate that the coiling was somewhat used, as they were fractured at points where the welding of the coil into a perfect joint was faulty and weak. Sometimes what the metal worker calls a "butt" weld was used and sometimes a "lap" weld, when using the coiling method.

Prof. C. C. Willoughby, in his monograph on "Pottery of the New England Indians," page 86, says: "Of the many potsherds examined by the writer, but one or two show evidences that the vessel was constructed by coiling. It is probable, however, that this was the common method followed." This might be repeated as relating to the pottery of the North Appalachian region, increasing somewhat the percentage of specimens in which the coiling is seen.

Future investigations may throw more light on the processes used in making these vessels.

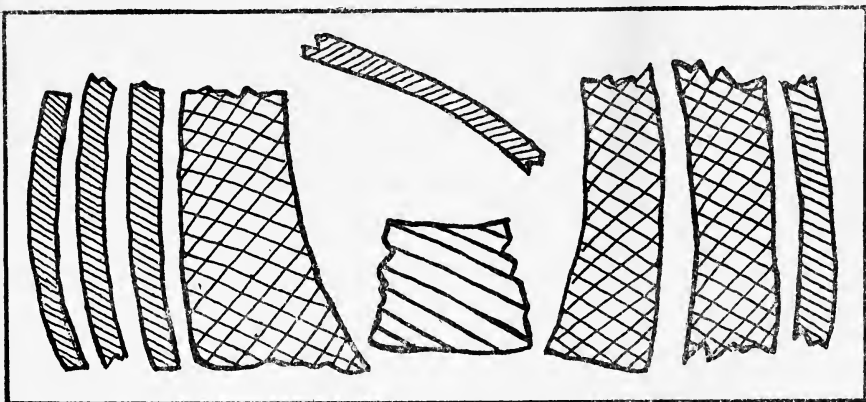
SIZE OF VESSELS.—It has been generally thought that no large vessels were made in the region, but the three large vessels illustrated in Plates Nos. 1, 2 and 3, prove this to have been a mistake.

These three vessels were all found buried in the earth, *not in graves*, and their discovery in this manner leads to the hope that other similar specimens may be found under the same conditions. Within the past year the writer has seen large fragments of a number of other large vessels which were buried in the manner described, a few of which are shown in this paper.

A number of the fragments in our Society's collections may be parts of larger vessels than would be supposed. The rim of the vessel shown in Plate 3, seen by itself, did not suggest that the vessel was as large as it proved to be when fully restored.

The range of capacity of the pottery varies from 48, 46 and 34 quarts in the three largest specimens to a fraction of a pint in the smallest ones. The very small vessels shown are from Athens, Pa., and may safely be classed as Iroquoian.

THICKNESS OF WALLS.—The thickness of the wall or shell in different vessels varies considerably, and it varies frequently in different parts of the same vessel. Specimens are in our collections which are not thicker than one-eighth ($\frac{1}{8}$) of an inch, and other specimens are as thick as three-fourths ($\frac{3}{4}$) of an inch, and in very rare instances one (1) inch.



Sectional view showing range of thickness in walls of Indian Clay Pottery,
Wyoming Valley, Penn'a. (Full size.)

The greatest thickness is at the base, except in some cases where to produce the overhanging cornice of the collar, the clay was thickened at that point. From the manner of making the vessels, it seems that the workman could not tell how thick the wall was, as the same zone in a vessel varies considerably in thickness. In other cases it is remarkable with what exactness a uniform thickness of not more than one-eighth of an inch was maintained throughout the vessel.

DECORATION.—When we consider the limitations under which these peoples worked, using almost entirely parallel incised lines, arranged in different combinations, to work out their results, it is remarkable the variety of effects which they produced.

In the ware, which the writer believes to be distinctive of the territory, the decorations consists, almost without exception, of incisions in the soft clay, either by the use of a sharp instrument or some simple form of a stamp. The latter method is very rare, and, perhaps, should not be mentioned as indigenous to the region. There was no effort whatever to model a decoration which was raised above the surface of the vessel, and in cases where such decorative features appear, they are probably intrusive.

The decoration is always arranged in such a manner that there are no vacant spaces left to be filled in with surplus lines departing from the regular design.

The fact that these people did not blindly and frequently follow or copy one set pattern, would seem to indicate that they were inventive and showed individuality and freedom of thought; that they had distinct personality. The nearest approach to a regular pattern is the one shown as Fig. 4, in Plate No. 7, and in several other specimens here illustrated. The selection of this particular style of decorating shows a discriminating good taste, as it is admirably suited for the purpose and is in harmony with the entire vessel.

It may be that some of the markings on vessels which we take to be solely for decorative purposes served a more use-

ful purpose. The potter had learned by experience that when firing the vessel to bake it, it was necessary that the heat be applied uniformly and equally to all parts of the work, in order to prevent unequal expansion and consequent cracking and breakage. The description by one of the earliest observers of the Southern Indians has been frequently quoted, but to bring the matter together at this place, it is repeated here: "They set their cooking vessels upon a heape of erthe to stay them from falling" and then "putt wood under which being kindled one of them taketh care that the fyre burn equally rounde about."

Mr. M. R. Harrington, in reporting his observations in "The Last of the Iroquois Potters", of the making of pottery by these people in North Carolina, in the year 1908, fully describes the whole process and makes mention of the care taken to apply the heat evenly to the entire vessel while it is undergoing the baking.

It therefore seems plain that these people fully understood the evil effects of an unequal application of heat to an earthen vessel, and that it was necessary to be mindful of this whenever the vessel was subjected to heat.

The suggestion is here made that some of the deep indentations, *upon the upper part of the vessel*, which were farthest removed from the direct action of heat, may have been made so that the heat could more fully penetrate the shell at these parts, and produce a more even expansion of the shell.

The "beaded" decoration shown in Plate No. 16, and the markings in Plate No. 2, illustrate the idea suggested, as do other specimens throughout this paper.

It may be said of decorations, as was said of form, that they are always sensible, dignified and in good taste, and, by avoiding over-elaboration and variation from a single design in the same vessel, indicate a natural sense of the artistic.

It is suggested that, when the natural characteristics and traits of the American Indian have had the advantage of

systematic cultivation, they will develop talent in an artistic and esthetic direction, not only in form and decoration but in color and music.

USES.—From the shape, thinness of the shell and other fragile features of the earthenware of the region, it seems doubtful whether many of the vessels found were used directly over the fire. Some of them were undoubtedly so used, however, as is indicated by the fire mottling upon them.

It may be that they did not cook their food nearly as much as we do, but ate it in a more nearly raw state. The writer thinks that the greatest use made of the pottery of the region was for storage purposes, and for transporting water from the nearby spring and to keep a supply of it on hand for use as needed.

A use which is suggested by such vessels as were tempered with a vegetable substance, is, that they were used as medicine jars. That in such vessels as are described under Plate No. 19, the mother may have kept her supply of household remedies, composed of roots and herbs, steeped in water, and that the walls of the vessel itself contained a part of the medicinal properties in the material with which it was tempered. Such vessels do not seem suited for any other use, because of their fragile nature. Vessels made of clay, tempered with shell, may also have been medicine jars, the water in which may have gotten mild therapeutic properties from contact with the calcined shells.

It is well understood that when the American Indian first saw the metal hollow ware of the Europeans, they at once recognized its superiority to their own baked clay vessels.

In a number of cases of purchase of lands in Pennsylvania from the Indians by the Proprietaries, a part of the purchase price paid was metal pots and kettles, as is enumerated in the Archives of our State.

As a specific example of their appreciation of the metal pots, the following incident is quoted from Mrs. Louise W.

Murray's book on "Old Tioga Point," page 240: "In the spring of 1784, Jacob Snell and family poled up the river, coming from Stroudsburg. * * * Snells were the first permanent settlers in the township [at Athens, Pa.] the family continuing in the valley to the present date. * * * The Snells found a few Indian families on the point [Tioga Point]. * * * They were friendly, however, especially the squaws, who were frankly curious as to the belongings of the family, even the clothing. They were very covetous of the cooking utensils, whose use they understood. One squaw in particular frequently borrowed an iron pot, which with other cumbersome utensils, was kept on a bench outside the cabin. One day she was told it could not be spared, but when a little later Mrs. Snell wished to use it, the kettle was missing. The squaw was rapidly paddling her canoe across the river, but when she saw Mrs. Snell she stood up and called gleefully: 'Me pottie, me pottie.' This clever trick so amused the owner, that, for harmony's sake the coveted pot was left in the squaw's possession."

No whole vessels are illustrated in this paper which were found south of a line drawn east and west from Sunbury, Pa. Considerable correspondence with parties living south of this line has failed to locate any whole pottery. It is quite probable that such are in existence but the writer could not find them.

AGE OF POTTERY.—There are certain features or characteristics in the appearance of things which are very old, which are seen by the practiced eye, that are not easily describable. This is peculiarly the case with such things as have been buried in, or had long contact with the earth. The experienced eye is able to distinguish changes that are taking place in even the hardest rocks, and to the careful observer it is plain that all things are in a state of continual change.

The pottery ware of many parts of the southwestern United States, which are known to be very old, bear marks

upon them which indicate this great age. While they are made of hard material, are often perfectly smooth on the surface, offering no irregularities for the "tooth of time" to gnaw them, yet they have this old look.

Using centuries and not single years as the unit for measurement, it does not seem, from its appearance, that the pottery ware of the North Appalachian region has very great age. There are evidences of oldness seen in it, and yet it has a freshness and brightness about it generally, which gives it an appearance of comparative newness.

This may indicate one of two things, either that the peoples of the eastern United States had not practiced the art of pottery making for a very long time, or, that they had not lived in the territory for a great many years, when America was discovered by the Europeans.

The first proposition has been frequently advanced and discussed by writers on the subject, so it will be passed by and some attention will be given to the second proposition.

A HYPOTHETICAL CASE.

There are more or less definite claims made, based on old Scandinavian Sagas, that the Norsemen visited America a great many years ago and returned again to their own country.

There are also some traditional and legendary accounts of a visit by some of the sea-faring Welsh people to this country in centuries long past.

From time to time we hear of some new sign being discovered which gives evidence of a visit to America by Europeans at some time in the distant past.

When Marco Polo visited the new and strange countries lying to the east of Europe and returned to give an account of the strange peoples he had seen, the cities he had visited and the customs of the distant lands, his stories were given but little credence, and he was treated as a charlatan and a fabricator of falsehoods and mythical stories. Later information, however, leads to the belief that he did actually

visit the countries which he described and saw the peoples whom he said he had seen. Other explorers have returned from their travels, only to meet with doubts and criticism at home.

Taking it for granted that the human race was dispersed over the earth from a point near the boundary line between Europe and Asia, it is a natural inference that they migrated from that location in an eastern and western direction; those traveling east going toward the Pacific ocean and those traveling west toward the Atlantic ocean.

Those who had gone eastward would eventually come to the ocean, and, let us suppose that the more venturesome and restless among them, found in time that there was a chain of islands stretching out into the ocean, or that they found to the northward that there was but a narrow channel of water, which separated them from other lands still farther to the east. We will further suppose that they eventually crossed over to the western shore of America by either of these two routes, and found a lodgment along the Pacific coast line. They would then have the entire continent of North America before them for exploitation. We will leave them there for the present.

The wave of emigration which had gone westward would travel across the lands which now constitute Europe, and in due time would have come to the shore line of the Atlantic ocean. This presented to them a vast body of endless water, which offered no hint of what lay beyond. There were no islands to use as stepping stones in venturing out on the mighty sea, nor any narrow channel across which they could hope to pass into a new and great continent.

The Europeans having met this impassable barrier were compelled to adjust themselves to the conditions surrounding them, to till the soil carefully to gain a subsistence, to build cities and to form themselves into compact communities in which they lived.

Now to go back to those people who had made a lodgment

on the Pacific shore, they found eastward of them high and snow covered mountains, which they would have to pass in their further progress eastward. And after they had crossed these mountains they would find barren and desolate plains, to live on which would require a readjustment of all their habits of living. It would take them many, many years to overcome the difficulties which lay before them. But we will take it for granted that they overcame all these adverse conditions and are moving across the American continent. They have traveled many miles, and it is safe, perhaps, to reason that, because of a migratory mode of living, they did not take on the culture of that portion of their people which did not journey with them, but settled at favorable points along the route in permanent towns or villages. The moving mass may have brought away with them such arts and customs as were practiced by the people at the time they separated from each other.

We will suppose again that they have traveled eventually across the American continent from the Pacific to the Atlantic ocean.

Returning to our own forebears who had come to the seemingly impassable barrier of the Atlantic ocean. The only thing which could bring them to a knowledge of the great land of America, which lay beyond, was that a man appear who would lead them at one move directly across this great expanse of water.

We know that such a man did appear in the person of Christopher Columbus, and that they first came to America in the year 1492.

In such journeys as have been described, it is plain that people traveling in either direction would have met with obstacles and difficulties along the route, and that they would have been on the way for a long period of time.

The suggestion is made that, when America was discovered in the manner of which we have full knowledge, such people as they found here had not been long in possession

of the land, but were also comparatively new-comers, from the westward.

The distance from the Caucasus mountains in eastern Europe, traveling eastward in a straight line, near the fortieth degree of north latitude, is approximately 11,000 miles to New York City; about 6,000 miles of which would be land travel crossing two continents, and about 5,000 miles across the Pacific ocean.

From the starting point, traveling westward, the distance is about 4,500 miles, 1,500 miles of which would be land travel across Europe and 2,500 miles across the waters of the Atlantic ocean.

The question may be asked why, under all the conditions met with, a party moving eastwardly should reach the Atlantic coast line much earlier than a party which had moved toward the west?

It is not to be presumed that any such migrations of mankind were made along straight lines, and yet it is a curious coincidence that in man's movements in changing his abode he has kept pretty close to the latitude in which he was accustomed to live.

Now to return again to the European legends and traditions of early visits made to the land of America for further consideration.

It is a noticeable fact that, when explorers have returned from their travels, their accounts are very largely given up to descriptions of the strange peoples whom they saw and to their personal appearance, peculiarities in dress, customs, the houses they lived in, in fact the human interest seems to have engaged their whole attention, almost to the exclusion of other things.

It is true that, here and there, incidental mention would be made of the animal life, as it differed from that they knew at home, some rivers and mountains might be mentioned when speaking of their journeys, but *man* himself was the chief topic of interest. A fuller knowledge of the

animals and the geography of the new land was only had after other visits to the strange country.

It has been held as a fatal omission in the traditions of early visits by the Scandinavians and Welsh to the land of America, that they failed to mention or describe the peoples whom they found there. Would not this omission be fully and naturally explained, if it were known that they saw no people along the Atlantic seaboard, because the people from the west had not yet reached that point, a thousand or so years ago, when it is intimated that these earliest European visits were made to this continent.

If this hypothesis were to prove true, it would also be a fact that, when the white man first met the red man, on the eastern slope of America, the farthest outposts of the two waves of migration which had spread from the cradle of our race would have impinged again upon each other, after untold years of separation.

That then, for the first time the human family had girdled the earth in its travels; that brother had met brother again, but so changed by time, climate, conditions of living and the different lines along which each had developed himself, that they did not recognize the kinship between them.

But to get back to the starting point, the momentous question of why the North Appalachian pottery does not seem very old, would be answered.

This may be all idle and useless speculation, and yet there may be some germ of truth in it.

"Oh, East is East, and West is West,
and never the twain shall meet,
Till earth and sky stand presently at
God's great Judgment Seat;
But there is neither East nor West,
border, nor breed, nor birth,
When two strong men stand face to
face, tho' they come from the ends
of the earth."

—Kipling.







Plate No. 1. The WILLARD A. HAKES Indian Jar (capacity, 48 quarts; about one-half actual size).

PLATES ILLUSTRATING THIS PAPER.

Plates Nos. 1, 2 and 3 illustrate the three largest clay vessels of which the writer has any knowledge, which have been found in the North Appalachian region. They are unusual, because of the great size of the vessels and are interesting as showing three distinctly different forms.

It would have been advantageous if all the specimens could have been illustrated on the same scale, relative to actual size, but the size and shape of the page prevented this; however, the three largest vessels are shown so as to very nearly carry out this idea.

To obviate to some extent the different scales used, measurements are given of most of the specimens, so those interested may form some idea of proportions by setting a rule by the side of the picture.

An effort has been made to suggest the natural colors of some of the vessels by the color of the ink used in printing them.

The capacities in all cases are given in liquid measure, 231 cubic inches to the gallon.

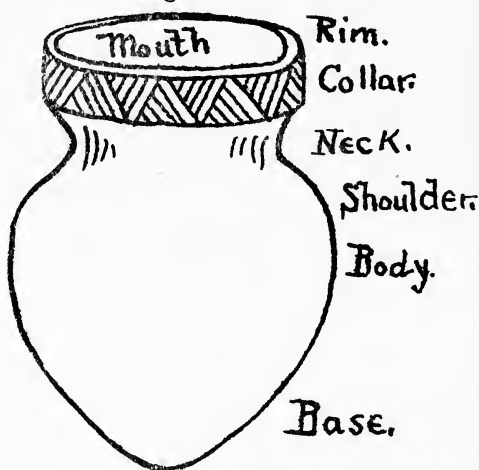


Fig. 1. Outline of a vessel, showing the different parts which are referred to in this paper.

Some casual readers may think that the minuteness of detail in describing the specimens is unduly exact, and it may be said on that point, that this is done for the benefit of the student of Indian pottery. On the other hand, where the scientific student may think there are too many digressions from a close following of the subject, this has been done with a view to interest the average reader. There are, no doubt, some things in the paper which may seem to all readers as mere idle speculation and "going a wool gathering;" such things are written merely to please the writer's own fancy. The hope is that all may find something of interest in this discussion of Indian Clay pottery.

The fact has been kept in sight at all times that the things written about were very *real* things to a *real* people, who, in their own way, lived a life just as *real* as the lives we are living to-day.

DESCRIPTION OF PLATE NO. I

Plate No. 1 illustrates the Willard A. Hakes Jar. This beautiful specimen of Indian handiwork is 23 inches high and 17 inches in diameter at the largest part of the body. Mr. Hakes writes me that it holds 48 quarts, liquid measure, and that the walls are one-half inch thick.

This is the very largest vessel of which the writer knows that has been found in the North Appalachian region.

The good illustration shows the vessel to be beautifully symmetrical and finely decorated, and the writer knows, from having seen it, that it was a substantial and serviceable utensil.

It was found by some fishermen, buried beneath the surface of Fisher's Island in the Susquehanna river, near Hooper, about four and one-half miles west of Binghamton, New York.

The writer's attention was called to this unique specimen by the sons of Mr. Frank Jewell, of Chenango Bridge, New York, and with their assistance the fine photograph was secured from Mr. Hakes for illustration here.

The child shown in the picture is Master W. A. Hakes, Jr., son of the owner of the jar, who is about eighteen months old.

No further attempt is made to describe this vessel, as the engraving does this better than can be done in words. To appreciate its size it needs to be seen.

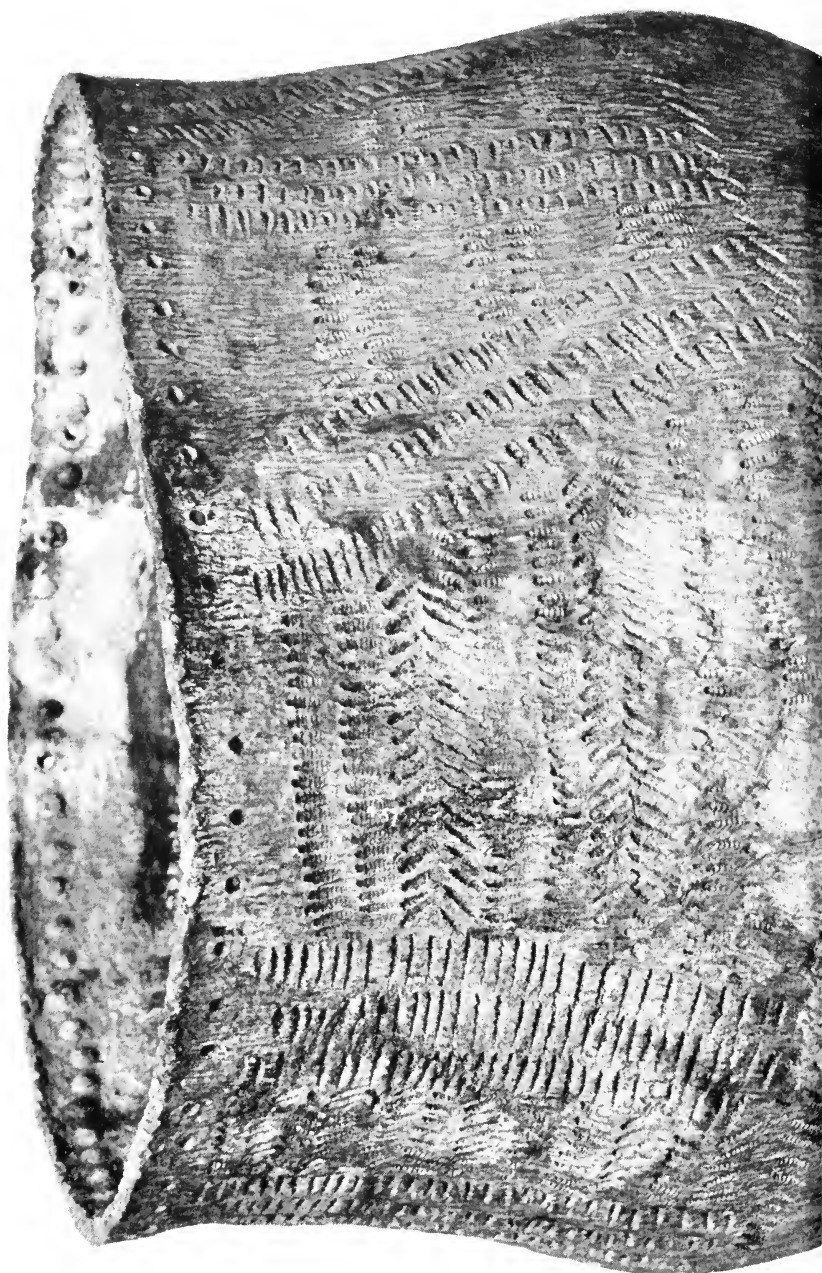
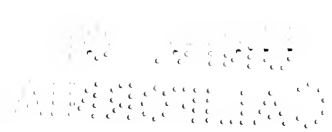




Plate No. 2. The A. J. GRIFFITH Indian Bowl (capacity, 34 quarts; about one-half actual size). In the collections of the Wyoming Historical and Geological Society, Wilkes-Barre, Pa.



DESCRIPTION OF PLATE NO. 2.

This fine example of an Indian skill was found about the year 1873 by Mr. A. J. Griffith, of West Pittston, Penn'a, on the left or eastern bank of the Susquehanna river, about three hundred yards above where the Lackawanna river empties into it. We have given it the name of "THE A. J. GRIFFITH" BOWL.

It was exposed by one of the freshets in the river cutting away the bank. When Mr. Griffith found it he thought he had nearly the entire vessel. It will be noticed that the base is quite noticeably conical, as were doubtless other specimens of similar type, of which we have large fragments.

The vessel is 17 inches high and has a greatest diameter of $14\frac{1}{2}$ inches, with a thickness of walls of about five-sixteenths of an inch, which is increased to three-fourths of an inch at the extreme base, as is shown in the line of engraving on this page.

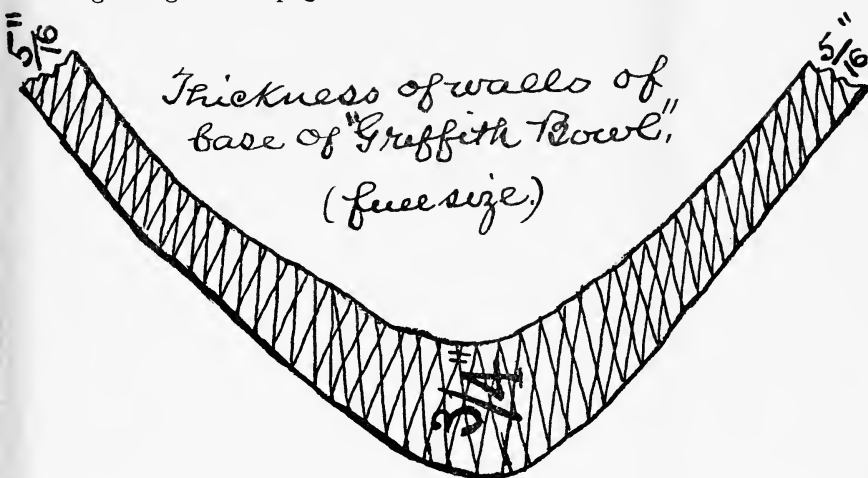


Fig. 2.

A comparison of this vessel with the one shown as Fig. 652, in Vol. II, of Warren K. Moorehead's "Stone Age of North America," shows them to be almost identical in all their features. The beading style of decoration is seen on this vessel, the beading showing on the inside of the rim, while in some instances it is on the outside.

The vessel, which was broken into a number of pieces, was not restored until the year 1913, when Miss M. Louise Baker, who did the work, spoke of it as one of the most difficult pieces she had ever put together.

A small picture is shown of the vessel in a different view, to illustrate that the resemblance to the similar specimen in Moorshead's work, before mentioned, exists in the unsymmetrical shape of the base.

This vessel was found at about the location of the Indian town of Asserughney, which is described as "being on the east bank of the Susquehanna river, between Campbell's Ledge and the Lackawanna." Conrad Weiser visited this village in the year 1754, and says that there were twenty Indians living there at that time. Stewart Pearce, in "Annals of Luzerne," describes Asserughney as a Delaware Indian village.

This vessel is in The A. J. Griffith Collection of our Society, having been presented by the family of Mr. Griffith, with numerous other fine Indian artifacts found near the head of Wyoming Valley in the vicinity of West Pittston, Penn'a.

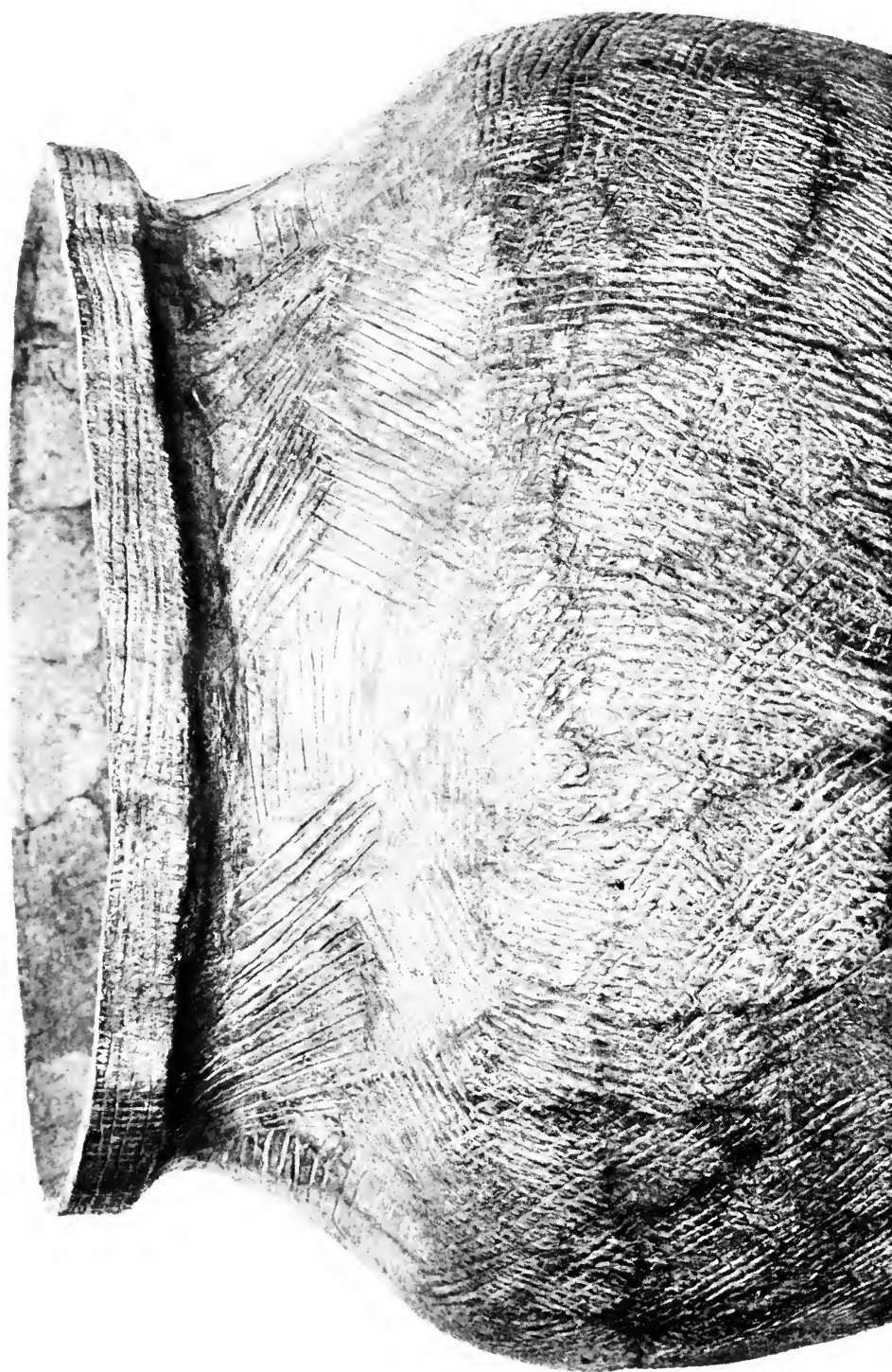




Plate No. 3. The CHRISTOPHER WREN Indian Jar, from Shawnee Flats (capacity 46 quarts; about one-half actual size). In collections of the Wyoming Historical and Geological Society, Wilkes-Barre, Pa.

DESCRIPTION OF PLATE NO. 3.

This Plate shows the "CHRISTOPHER WREN" Indian Clay Jar. It was found on the Shawnee Flats, in Wyoming Valley, near Plymouth, Penn'a, by Christopher Wren, on April 2, 1913, after a freshet in the Susquehanna river, which had exposed it to view.

To connect the location where this vessel was found with the surrounding natural features in the landscape, a more detailed description is given of the conditions under which it was found.

It was on a low knoll, within the boundaries of a much used camp or village site, several hundred feet west of three peculiar ponds sunk in the surface of the valley, and known locally as "The Perch Ponds". These ponds are located about two hundred yards back from the western bank of the river and their length runs parallel with the river.

The vessel was buried with the mouth downward, at such a depth that the base was about one foot below the surface, which would necessitate digging a hole about three feet deep.

As early as the year 1904 so much of the overlying soil had been washed away by the river floods that the farmer's plow had touched the base and broken it. In that year Mr. Wren found a fragment of pottery somewhat down stream, which he preserved. When the vessel was restored this fragment was found to belong to this vessel and was fitted into its place filling up a gap of some size.

After securing what seemed to be the entire vessel, and piecing the rim together, which was not a difficult matter, it was found that about four inches of the rim were missing to complete the entire circumference. The location was visited again on April 3, in company with Mr. Samuel U. Shaffer, of Plymouth, Penn'a, all the soil surrounding the vessel was dug out and passed through a sieve, resulting in finding all but one inch of the missing rim and about a dozen other fragments of the vessel.

After careful consideration as to the best method for having the vessel restored to its original form, it was decided to send the two hundred pieces into which it had been broken to Miss M. Louise Baker, of the Academy of Natural Sciences, at Philadelphia, Penn'a, and the illustration shows how skillfully she has performed that work. Miss

Baker had had much previous experience in restoring some of the unequalled specimens of Indian baked clay ware which Mr. Clarence B. Moore has secured in his explorations of burial mounds in the south.

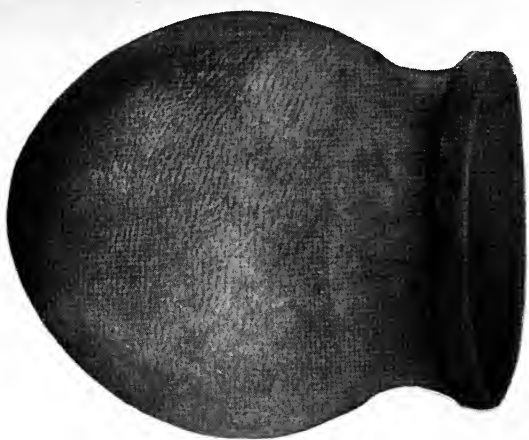
So much space is given to a description of the finding of this vessel and its restoration, that there may be an authentic record of all these details. It may be said that circumstances somehow seemed to conspire, at this time, to bring about this result.

The illustration shows this vessel so well, that but little attempt is made to further describe it. It is twenty and one-quarter ($20\frac{1}{4}$) inches high, has a diameter of fourteen (14) inches at the mouth and sixteen and three-quarter ($16\frac{3}{4}$) inches at largest part of the body and a capacity of forty-six (46) quarts, liquid measure. The shell is of even thickness and altogether the vessel was strong and serviceable. It is of a light yellow color outside and black inside. The decoration is not elaborate, but has the peculiarity of having a zone which shows decoration near the base, which is very unusual in the region.

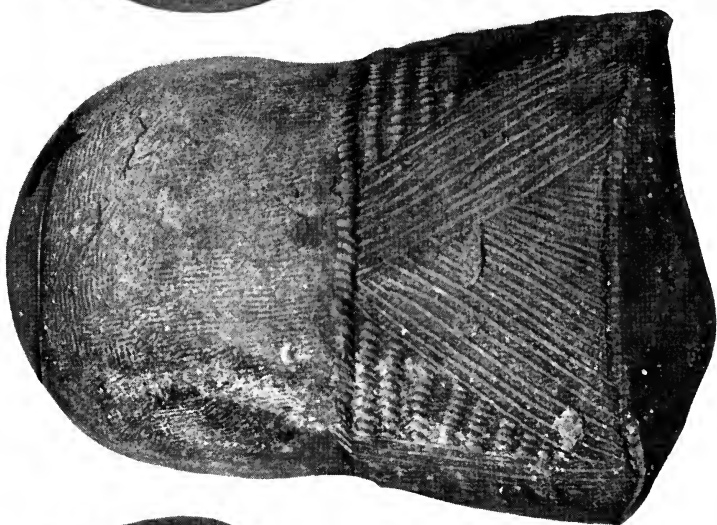
The form of the vessel is so much finer in outline and proportion than the decorative features, that it would seem as though the maker had a finer sense for form than for embellishment. A close examination of the lines of decoration on the neck will show, that while they were laid on with boldness and freedom, they are quite crude and seem to have been done carelessly.

It may be remarked that, from the variety of materials found at this place, the Perch Ponds seem to have been a favorite fishing place for the Indians of the south and also those from the eastern part of the State. Much of the gray rhyolite from the Gettysburg quarries, some soapstone from Virginia, red and yellow jasper from the Lehigh and Berks county quarries, and a few pieces of the argillite from the Delaware Valley have been found here.

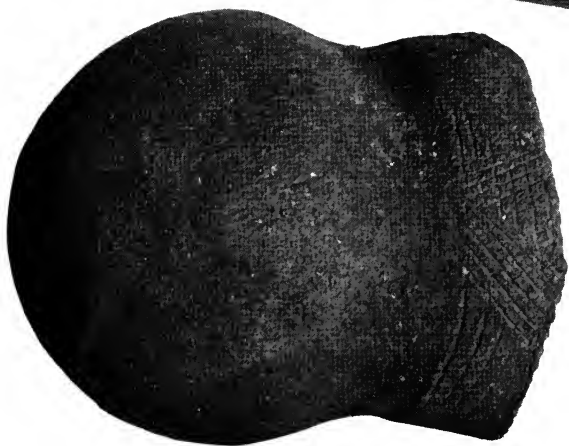
What is pointed out as the village site of the Shawnee Indians who came into the valley from the vicinity of Delaware Water Gap about the year 1728 is located about a quarter of a mile farther up the river than these ponds. (See description of Shawnee Flats.)



1



2



3

DESCRIPTION OF PLATE NO. 4.

This Plate shows three fine Indian clay vessels with differences in features which are quite noticeable.

Fig. 1 is the J. H. McMINN Pot, which is $10\frac{1}{2}$ inches high and $9\frac{1}{2}$ inches in largest diameter of body. Its entire make up is of exceptionally fine character. The vessel is owned by Mr. McMinn, who resides at Williamsport, Penn'a.

The McMinn Pot was found on the Wilkes-Barre mountain about twenty-five years ago, and was sold to a canal boatman who carried it to Williamsport, from whom the present owner secured it.

From the best information obtainable it would seem that this specimen was found under a ledge of rocks on the mountain side at some point between Wanamie and Ashley.

The illustration does not do justice to this fine vessel, because the party who took the picture did not have his instrument in proper focus.

Fig. 2 has been called the WHITE HAVEN Pot and is in the collections of our Society. It was found under overhanging rocks in Carbon county, Penn'a, near the point where Mud Run empties into the Lehigh river, by Amos Meckas, of White Haven, Penn'a, about the year 1890.

This pot is $12\frac{1}{2}$ inches high, with a diameter at the rim of $8\frac{1}{8}$ inches. A striking feature of the vessel consists in the great proportion of the entire height which is taken up by the collar and the manner in which it tapers from the largest diameter at the mouth all the way down to the base. The collar decoration is almost identical with the small specimen shown as Fig. 2, in Plate 18. The general design is the same, as is shown in Fig 2, Plate No. 13, but is worked out with a different effect in the two instances. The capacity of this vessel is $7\frac{5}{8}$ quarts.

Fig. 3 is the "MOSES VANDERMARK" Pot, which is 8 inches high and has a body diameter of $6\frac{1}{2}$ inches. It has a capacity of $3\frac{3}{4}$ quarts.

It was found under an overhanging rock, on the mountain side, about two miles west of Wanamie, Newport township, Luzerne county, Penn'a, near an old trail still used as

a traveled path in passing from Wyoming Valley to Lilly Lake in Slocum township.

The writer visited the location with Mr. Vandermark and was interested to notice the surroundings. On a terrace-like flat on the side of the mountain there is a fine spring bubbling out directly on the trail mentioned. The probabilities are that the woman who owned this vessel was passing out of the valley with some companions, and, when they came to the spring, she asked them to rest for a while until she had put the pot in a safe place. She went several hundred yards westward from the spring along the terrace and placed the vessel under the rock where it was found. For some reason she never came back to reclaim it.

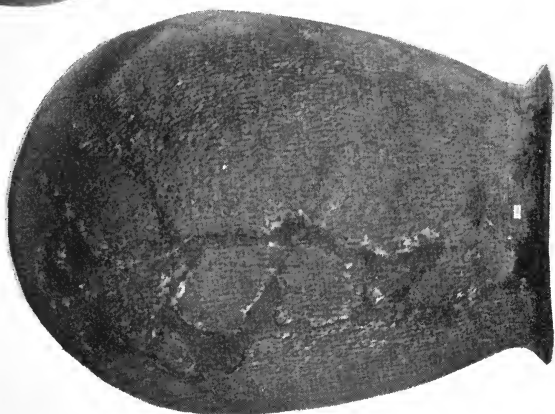
As no Indians have lived in Wyoming Valley for a period of more than a hundred years, this specimen must be at least that old and it is probably considerably older.



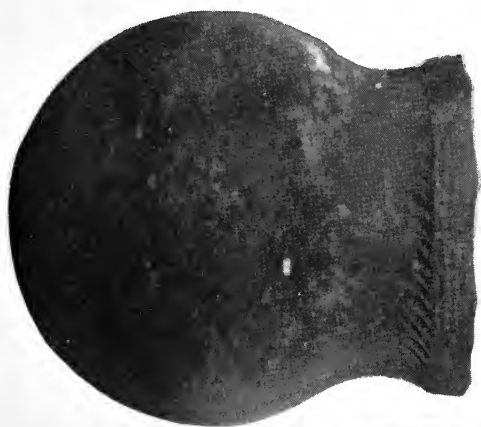
Early British Pot; about 200 A. D., Oxfordshire, Eng.
T. H. Powell Collection, London, Eng.



1



4



3



2



5

TO THE
LIBRARY OF
CONGRESS

DESCRIPTION OF PLATE NO. 5.

Plate No. 5 shows two Indian clay pipes which are in the fine collection of Mr. H. F. Metcalf, of Tunkhannock, Penn'a, and three clay vessels which all belong to Mr. W. E. Yager, of Oneonta, New York.

Figs. 1 and 2 were found at Mehoopany, Wyoming county, Penn'a, and are $2\frac{3}{4}$ inches and $2\frac{1}{4}$ inches long, respectively. It is through the courtesy of Mr. Metcalf that they are here illustrated.

Fig. 3 The "EAST BRANCH" Pot is $9\frac{1}{2}$ inches high and has a diameter of $8\frac{1}{2}$ inches. It was found under a ledge of rocks about the year 1895 by some boys on the east branch of the Delaware river, in Delaware county, New York. The walls of this vessel are rather thin in proportion to its size.

Fig. 4 is called the "TUNKHANNOCK" Pot, after the place where it was found by a Mr. Ruger, at a point where the high water in the river had washed away a part of the bank. It was somewhat broken but has been well restored. The present owner tells me that "it was well burned and a strong vessel." This vessel is unusual for the great height in proportion to the diameter, and especially for the tapering of the body upward toward the rim. It is 12 inches high, has a diameter at the mouth of $6\frac{1}{2}$ inches and at the largest part of the body of $9\frac{1}{2}$ inches.

Fig. 5. This has been called the "WILLIAM F. LANGE" Bowl. It is 14 inches high, has a diameter at the rim of 13 inches and of the body of 15 inches. It was found along the Susquehanna river, near East Windsor, Broome county, New York, in the year 1911, by W. F. Lange and others. With it were found numerous large pot sherds, parts of at least six other vessels. Fig. 5 has a thickness of walls of about one-third of an inch, and is described as well made and very strong. This is a very fine specimen of Indian work in clay in all its features.

It will be noticed that the engraving does not convey any idea of the relative size of the three vessels shown in this plate, as they vary from $9\frac{1}{2}$ inches high in the smallest to 14 inches in the largest. The photographs furnished being all of the same height, accounts for this discrepancy.

DESCRIPTION OF PLATE NO. 6.

Plate No. 6 we have called "THE ATHENS FACES". All of the figures shown in this plate were found at Athens, Penn'a, except the small pot, No. 10, which was secured by Mr. R. E. Teed. They are all in the Museum at Athens.

The Athens specimens were found in graves at that place (the Tioga Point of Indian days), about the year 1884, by Mr. Millard P. Murray, on the town lot on which his home is situated. The same ground as is now covered by the town of Athens was formerly occupied by an important Indian village.

Tioga Point, at the junction of the Chemung river with the Susquehanna, in Bradford county, Penn'a, with Shamokin (now Sunbury, Penn'a,) at the confluence of the two main branches of the Susquehanna river, seem to have been the two most important Indian centres, in early times, in Pennsylvania, east of the Alleghany mountains.

Tioga Point is frequently mentioned in early histories, when speaking of the intercourse between the whites and the Indians and between the white settlements in Pennsylvania and those in New York.

The three small vessels shown in this plate are $3\frac{1}{4}$, $3\frac{1}{2}$ and $2\frac{1}{4}$ inches high, respectively. Fig. 9 is almost a counterpart of Figs. 85 and 137 illustrated in Dr. Beauchamp's "Earthenware of the New York Aborigines". They are all doubtless of Iroquoian make.

The faces shown in different views in this plate are the very finest examples of Indian modeling of the human face, made by eastern Indians, which the writer has seen. They are in high relief and bring out the forehead, the eyebrows, the eyelids, the high cheek bones, the aquiline nose, the mouth, and the chin in a quite realistic manner. The first eight figures show different views of the same vessel.

The mouth in one case is well proportioned and symmetrical, showing that the artist had the ability to mold a well-shaped mouth, while in the other face, it will be noticed



INDIAN GRAVES, ATHENS, PA.

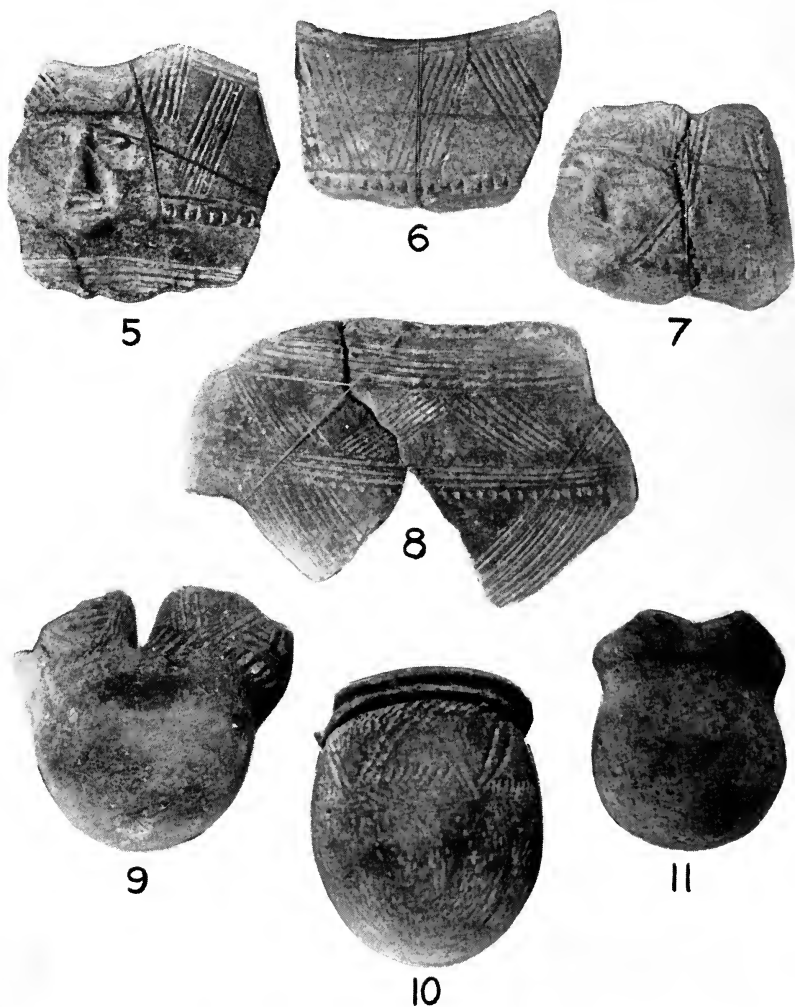


Plate No. 6. ATHENS FACES. Figs. 5 to 8, inclusive, are one-half actual size. Figs. 9, 10 and 11 are, respectively, $3\frac{1}{4}$ inches, $3\frac{1}{2}$ inches and $2\frac{1}{4}$ inches high. (Museum, Athens, Pa.)

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that the mouth is distorted and the nose awry. It seemed to the writer on examining these faces that the marred features in the one case were made so intentionally and that they may have been meant for a likeness of some individual.

There seemed to be no hope of securing any information which would throw any light on this matter, until, by the merest accident, Mr. W. E. Yager, of Oneonta, New York, called the writer's attention to the translations of some Iroquoian legends by Mr. J. N. B. Hewitt, which are published in the Twenty-first Annual Report of The Bureau of American Ethnology, under the title of "Iroquoian Cosmology".

From several versions of the same folk lore tale given by Mr. Hewitt, the following one is copied:

MOHAWK LEGEND.

Characters represented:

Maple Sapling—The good and benign influence.

Male-man-being.—("the other person"), the evil or contrary influence.

"Now then, as it was the custom of Sapling to travel, he met a Male-man-being. Sapling said: 'What doest thou as thou goest?' 'He replied saying'; 'I come to inspect the earth, to see whether it is just as I put it forth'. "Sapling replied, saying": 'Verily, indeed, this is a very marvelous matter about which thou art on thy way, for the reason that assuredly it was I myself, who completed the earth'. "The other person answered and said:" 'Not at all, for I myself have completed the earth.' "Whereupon Sapling replied, saying:" 'Well, then, if it be so, let it be made plain verily, that thou didst complete the earth'; "He added": 'At our backs, at a distance, there is a range of high mountains of rock, which is in appearance like a wall, so perpendicular are the rocks. Hither must thou move them close to thy body. If, perhaps thou are able to do this, it will be certain that thou didst indeed complete this earth; if thou wilt only speak, telling that mountain range to move itself hither.'

"Thereupon the other person said:" "Thus it will, I think, come to pass". "Then he called out, saying:" "Come thou, yon mountain range, move thyself hither. Do thou stand beside my body." "But the mountain range remained there." "Sapling spoke and said": "There, that is exactly what I have been saying, that thou didst not establish the earth!" "The other person again replied saying:" "Well then, let it become evident, if it be true, that thou hast established the earth, come then, do thou move that rock mountain hither". "Sapling replied and said:" "Thus will I do." "Thereupon he called out to the range of mountains. He said:" "Come, move thyself hither." "Then verily, it moved itself thence, close to his body, at his back did it come to a standstill. The cliff even lightly grazed his shoulder blades." Then Sapling said": "Now turn thyself around to the opposite side and look where the range of mountains is." "Whereupon he turned about and the rock struck his nose, and, as to him, his nose became awry". "Then at that time he spoke, saying": "Truly, indeed, thou has established this earth here present. It was not at all I who did it. If then, thou wilt consent to it that I may live, I will protect at all times thy peoples who are to dwell on this earth". "Sapling replying, said": "Truly it shall thus come to pass. Mask shall mankind ever call thee, and Grandfather."

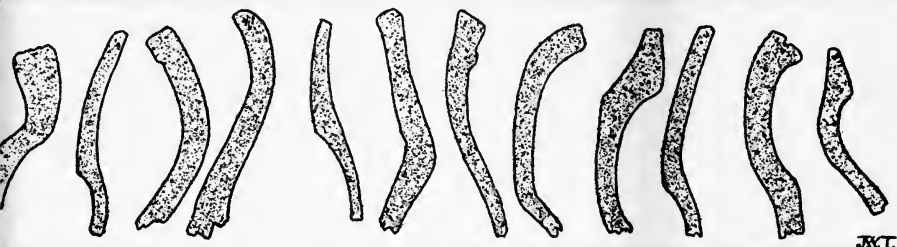
Taking it for granted that the maker of this pot meant to illustrate or typefy the legend copied above, the faces on the rim may be interpreted as follows: Maple Sapling is represented by the pleasant, almost smiling, face shown in Fig. 4, in which all the features are well proportioned. "The other person", (Male-man-being) is represented by Fig. 1, with distorted features and unpleasant expression of countenance. In this case, however, it is not the real face that we see, but it is the Mask which "The other person" was condemned to wear, as a punishment for his presumptuous claim of having created the earth. A corroborative indication that it is a mask which is copied, is seen

in the two mere slits which are made to represent the eyes, being apertures through which he could look out.

The False Face (or mask) has some connection with several societies among the Iroquois, which are known only to the initiated. Mr. Arthur C. Parker in his monograph on "The Code of Handsome Lake, the Seneca Prophet," says: "There are two Seneca legends setting forth the origin of the False Faces (masks) and with the Mohawks three stories. These stories, however, explain the origin of different classes of masks."

A comparison of the body decoration of the vessel shown as Fig. 8 of this plate, with Figs. 3 and 4 of Plate No. 8, will show that they are of the same character. Both of these vessels were found at the same place on the Murray lot at Athens, and were no doubt made by the same person. They may have been part of a set of similar vessels used for a ceremonial or special purpose. They seem to stand in a class by themselves in the decorative scheme which is carried out on them.

It is through the courtesy of Mr. and Mrs. Murray of Athens, that we are able to illustrate these fine faces.



J.W.T.

Sectional view of Pot Rims (reduced) in collections of Wyoming Historical and Geological Society, Wilkes-Barre, Pa.

DESCRIPTION OF PLATE NO. 7

Figs. 1 and 4 resemble each other quite closely in all their features, yet they were found in widely separated localities. They are also like the pots illustrated by Prof. Willoughby, and shown on this page.

Fig. 1, the G. MURRAY REYNOLDS POT, is in the collections of our Society. It is $9\frac{1}{2}$ inches high and has a body diameter of $7\frac{1}{2}$ inches. Its capacity is $4\frac{3}{8}$ quarts.

It was found under a ledge of rocks, about the year 1890, on Kitchen's creek, Fairmount township, Luzerne county, Penn'a, and presented to the Society by Col. Reynolds.

The arrangement of parallel lines used in the decoration of this pot rim, and also on a number of other rims illustrated in this paper, is the nearest approach to a uniform style of decoration in use among the peoples of the Susquehanna region. The lines are in a number of cases drawn so nearly parallel that it would seem as though a straight-edge was used in making them. The circumference of the rim must have been divided off in equal spaces to produce the regularity with which the pattern is repeated.

This style of decoration is well suited to the purpose for which it was used; it takes up all the space, leaving no voids, and the finished effect is pleasing and harmonious, and indicates good taste.

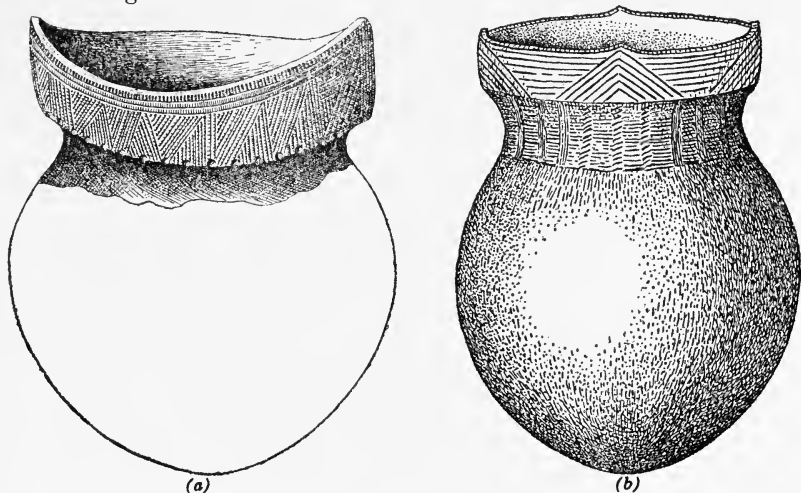


Fig. 3. Two vessels found in Connecticut, (a) near the City of Hartford, and (b) at East Windsor, a few miles north of Hartford; compare (a) with Figs. 1 and 4, Plate 7, and (b) with Fig. 1, Plate 9.
(Courtesy of C. C. Willoughby.)

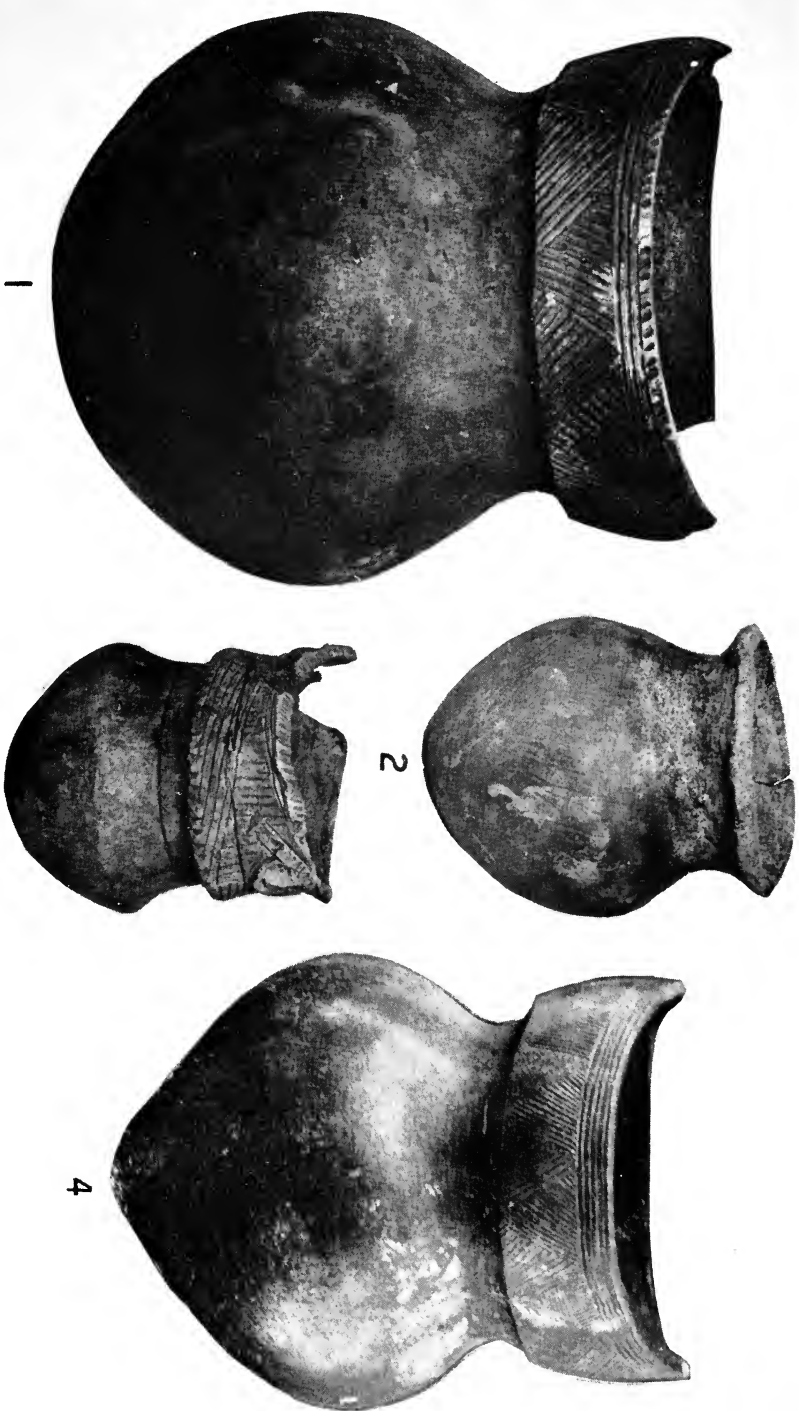


Plate No. 7, Fig. 1. $9\frac{1}{2}$ inches high (Wyo. Hist. and Geo. Society). Figs. 2 and 3 are $4\frac{1}{2}$ inches and $4\frac{1}{8}$ inches high, respectively, (Athens Museum). Fig. 4, Ponopeco Pot, was about 9 inches high.

Figs. 2 and 3 show small vessels found in graves on the "Murray lot" at Athens, in 1883, by Harrison Wright, Esq., and S. F. Wadhams. No. 2 is $4\frac{1}{2}$ inches and No. 3 is $4\frac{1}{8}$ inches high. They hold respectively $\frac{3}{8}$ of a quart and 1 pint. No. 2 is crudely made with thick walls, and seems to have been much used. No. 3 shows but imperfectly the human face. It has previously been illustrated in Vol. 1 of our Society's Proceedings and Collections, and by Wm. H. Holmes, in the 20th Annual Report of the Bureau of American Ethnology.

Fig. 4. "THE POHOPOCO POT," with another vessel (see Plate No. 9, Fig. 1), was found by some hunters, under a ledge of rocks on Pohopoco creek, Towamensing township, Carbon county, Penn'a, about the year 1886. A full description of this location is given under the heading "Camp Sites" as "Wild Creek Kettle."

After the owner of this vessel, who lived at Weissport, Penn'a, had refused several good offers to buy it, it was destroyed in a fire which burned down his house. Mr. Gimbi, who owns the other vessel found at the same time as this one, says it was slightly smaller than his, perhaps the size of the Reynolds Pot, which it closely resembles, The plate is made from a tintype.

PLATE NO. 8.

Fig. 1 in this plate shows the NORTHUMBERLAND POT. It is $5\frac{1}{4}$ inches high and $4\frac{1}{2}$ inches in diameter, with a capacity of one (1) quart.

It was found, with another similar vessel, at Sunbury, Penn'a, in a grave about the year 1904, and is now owned by our Society. Except that it is somewhat smaller, it is almost an exact counterpart of the "John Kern" pot, also in our collections, which was found at Shupp's graveyard, Plymouth, Penn'a, about the year 1873, also in a grave. The Kern pot has been illustrated in Vol. 1 of our *Proceedings and Collections*, and also in the 20th Annual Report of the B. A. E., by Wm. H. Holmes.

To illustrate the difficulty met with in securing one of these rare vessels, the history of this specimen is given in full. After it was found, it was secured by John Chesney of Northumberland. He sold it to Stephen Van Rensselaer about the year 1904, and the writer heard of it indefinitely in 1907 as having been sold to a gentleman at Newark, N. J., some years previously, without any name being given. By pure accident the writer heard of Mr. Van Rensselaer as having a collection of Indian relics, and upon writing to him learned that he was the owner of the pot. In 1913 Mr. Van Rensselaer wrote that he intended to dispose of his collection at Boston, Mass., at auction, and after that sale it was secured by our Society.

The particular reason for keeping track of this vessel, was that it might be returned to the territory in which it had been found (and not become entirely lost), for the purpose of study by expert archeologists. It may be remarked that the Indians told Count Zinzendorf, on pointing out to him the burial place at Shupp's graveyard, where the "Kern" pot was found, that "they did not know what Indians were buried there, as the graves were there when they came into the country."



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Plate No. 8. Fig. 1. NORTHUMBERLAND Pot, is $5\frac{1}{4}$ inches high. Figs. 2 and 3 are, respectively $5\frac{1}{4}$ and $5\frac{3}{8}$ inches high (Wyo. His. and Geo. Soc.) Fig. 5 is $3\frac{1}{2}$ inches high (Yager). Fig. 6. TUNKIANNOCK Pot is 5 inches high (Weiss).

We are pleased to know that the "Northumberland Pot" has now found a permanent resting place where it will be safely kept at least as long as our Society has an existence.

Figs. 2 and 3 of this plate were found in graves at Athens, Penn'a, on the "Murray lot", by Messrs. Wright and Wadhams. Fig. 2 is $5\frac{1}{4}$ inches high and $4\frac{1}{4}$ inches in diameter; Fig. 3 is $5\frac{5}{8}$ inches high and $4\frac{1}{4}$ inches in diameter; they hold one and a half ($1\frac{1}{2}$) pints and one (1) quart respectively. They are from the same place as Plate No. 6.

Fig. 4 shows a detail of the base decoration of Fig. 3 which is of unusually fine and complex design, and is like the "Face Pot" of Athens, as has been mentioned before. Among many hundreds of specimens examined, the writer has seen no better example of decoration in the region.

With a glass the design may be examined and it will be seen that it has been carried out with singleness of purpose and no departure from the original scheme. When we remember that having once sketched the pattern on the soft clay, it could not be obliterated, as we can do when sketching on paper or other hard smooth surface, we must admit that the Indian artist had skill of hand and eye to produce so good a result.

Fig. 5 illustrates THE COLLIERS POT, named after the location where it was found. It is $3\frac{1}{2}$ inches high and $3\frac{1}{2}$ inches in diameter, and is now in the collection of Mr. W. E. Yager, of Oneonta, N. Y. This vessel was found by Townsend Bishop, at Colliers, Otsego county, N. Y., about the year 1902. Size in this instance, as in others, is not indicated by the picture, this vessel being a quite small one.

Fig. 6 This vessel has been called THE TUNKHANNOCK POT, from the place where it was found. It is owned by Mr. Clarence S. Weiss, of Lehigh, Penn'a. It is 5 inches in height and has a body diameter of $4\frac{3}{8}$ inches. It was found under a shelving rock, near the bank of the Susquehanna river at Tunkhannock, Wyoming county, Penn'a, by a fisherman who had sought shelter there from a rain storm. The body of this vessel is of greater diameter, in proportion to the height, than is seen in any other specimen illustrated.

We have to thank Mr. Wm. E. Ash, of Lehigh, Penn'a, for assisting us to secure a photograph of this vessel, which we had vainly tried to do for six years.

DESCRIPTION OF PLATE NO. 9.

Fig. 1 of this plate is a good illustration of a fine vessel owned by Mr. A. W. Gimbi, of McAdoo, Schuylkill county, Penn'a.

This pot was found at the same time and place as the one described as Fig. 4 under Plate No. 7 and called the Pohopoco pot. A full description is given of the location where these two vessels were found under the head of Camp and Village Sites, in which it is called "Wild Creek Kettle." Both this and the other pot found with it, should be compared with the two illustrated by C. C. Willoughby, and found in adjacent territory in the State of Connecticut. (See page 56.)

The Gimbi pot is $10\frac{3}{4}$ inches high and has a body diameter of $9\frac{1}{2}$ inches. The engraving shows the features of this pot so well that no further description is necessary.

Fig 2. This vessel has been called the HAZLE CREEK POT, from the location where it was found. It is 7 inches high, has a diameter at the mouth of 6 inches and at the widest part of the body of $6\frac{1}{2}$ inches. It was found under a ledge of rocks by George Kimmel, John Wilhelm, Charles Romig and Christopher Wilhelm, at the junction of Hazle creek and Beaver Meadow creek, in Lausanne township, Carbon county, Penn'a.

This location is in a wild and un-inviting mountain region, very poorly adapted for occupancy or cultivation. The probability is that the vessel was hidden under the rocks by some one who was passing over the trail leading from the Lehigh river in the vicinity of Mauch Chunk to some point in the Wyoming valley on the Susquehanna river, which could be done at this place by easy grades and in almost a straight line. Indian hunting parties also doubtless roamed over this territory.

The illustration shows that this was a fine vessel when whole, but it was badly broken and has been restored. Because the photograph furnished for illustration was a

PLATE NO. 9



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Plate No. 9 Fig. 1 is 10 $\frac{3}{4}$ inches high (Gimbi). Fig. 2 is 7 inches high (Wilhelm). Fig. 3 is 6 inches high (Coddington). Fig. 4 is 6 $\frac{1}{2}$ inches high (McMinn).

poor one, out of focus, the plate does not do justice to the specimen.

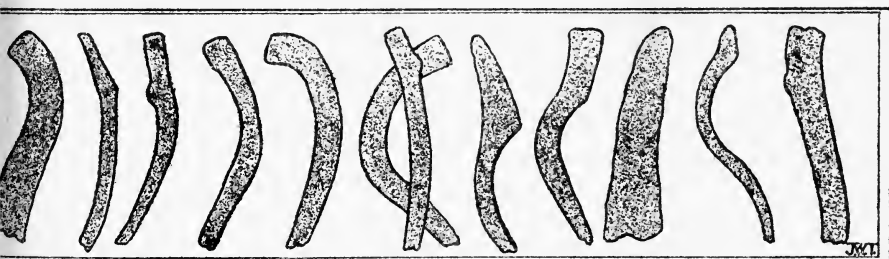
The fact that evidences of Indian occupancy of the region are few gives additional interest to the Hazle Creek Pot.

Fig. 3. The JOHN W. CODDING POT, was found under overhanging rocks, in a mountainous region, on Satterlee creek, Bradford county, Penn'a, and is owned by the gentleman whose name has been given to it and who resides at Towanda, Penn'a.

It has a height of 8 inches, measures 6 inches across the mouth and at the largest part of the body 7 inches.

This vessel is of exceptionally fine design and workmanship with thick walls, and it was a strong and serviceable utensil. The decoration too is well laid on and is in a pleasing style.

Fig. 4. This pot is in the collection of Mr. J. H. McMinn of Williamsport, Penn'a, who also owns Fig. 1 of Plate No. 4. It was found by hunters under a rock shelter on the Scootac mountains, Bald Eagle township, Clinton county, Penn'a. The specimen is $6\frac{1}{2}$ inches high, but, because part of the body and rim are missing, the diameter cannot be accurately given. This vessel is more crude in all its features than any other specimen shown, and the probabilities are that it was hurriedly made to meet a temporary emergency.



Sectional view of Pot Rims (reduced) in collections of Wyoming Historical and Geological Society, Wilkes-Barre, Pa.

DESCRIPTION OF PLATE NO. 10.

Plate No. 10 illustrates two remarkably fine vessels which are in the collections of the Academy of Natural Sciences Philadelphia, Penn'a. It is by the courtesy of Mr. Clarence B. Moore that we are able to include them in this exhibit of the pottery ware of the North Appalachian region.

Fig. 1 is 11.6 inches high, has a diameter at the rim of 10.6 inches and of the body of 9.3 inches. It is a beautiful specimen in all its features, and the confidence and assurance with which it was made indicate that the work was done by skilled and experienced hands.

It was found in the year 1884 at the junction of Big Moshannon creek, with the Susquehanna river, in Clearfield county, Penn'a, together with bones of bear and deer. A wall had been built up in front to conceal it from view. It was presented to the Academy by Dr. H. Beates.

Fig. 2. This figure illustrates a vessel 9 inches high with a greatest diameter of $6\frac{1}{2}$ inches. It seems reasonably certain that this specimen was found on Pine Creek, Lycoming county, Penn'a, about the year 1847. In speaking of this vessel, the Academy writes me: "While going over the old records of the Academy, in search of other information, I came upon the following entry: 'May 11th, 1847, an earthenware Indian utensil, taken from a crevice in a rock on Pine creek, Lycoming county, Penn'a. Presented by Mr. Thomas H. Taylor.'"

"This may or may not be the vessel of which I recently sent you the photograph. The entry certainly applies to no other vessel now extant in the Academy collections, nor does there seem to be any other donation recorded that could refer to the vessel under consideration."

The plate illustrates these two vessels so well that further comment upon them would be superfluous.



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Plate No. 10. ACADEMY OF NATURAL SCIENCES, Philadelphia, Pa. Figs. 1 and 2 are, respectively, 11-6/10 inches and 9 inches high. (By courtesy of the Society.)

DESCRIPTION OF PLATE NO. II.

This plate is copied from "Earthenware of the New York Aborigines," by the Rev. Dr. Wm. M. Beauchamp, and is a part of Bulletin No. 22 of the New York State Museum. It illustrates a typical page of Pottery and Pipes from the Bulletin.

In some directions Dr. Beauchamp has made the most exhaustive studies of the New York Indians, or Iroquois, to be found at this time, which are published as Bulletins of the State Museum. This page illustration is given for easy reference in any remarks which may be made in this paper to the Iroquois or their artifacts. To such as are specially interested, a further study of Dr. Beauchamp's Bulletins is recommended.

To the writer it seems that the entire conception of form, decoration and other features shown in this plate, differ widely from the clay wares of the region covered by this paper. If, however, the Reverend gentleman has directed his attention specially to a showing of the rare and unusual types, with but slight attention given to the common or more numerous styles of earthenware, this conclusion would have to be somewhat modified.

In any event it does seem that there are in New York two distinct classes of ware in which the controlling ideas have been radically different.

A brief review of what the writer understands to have been the relations between the Iroquois and neighboring stocks, of the Indian race, may not be inappropriate at this place.

Some one has described the Iroquois, in relation to surrounding tribes, as being like a small island of Iroquois in a sea of Algonquins. This seems to be an apt and comprehensive comparison.

The Iroquois occupied contiguous territory in what is now the State of New York, extending from the Hudson

river on the east nearly to the western boundary, south of Lake Ontario. They were a confederation, all the parties to which had bound themselves to act in unison, in all matters touching their common interests. By thus acting in concert they had attained a place of power and influence which seems to have been very great in proportion to their numbers, when compared with their surrounding neighbors.

They seemed to have learned the first principle in the art of successful warfare, that of presenting at all times a superior force to that of their opponents at the point of contact.

Being much engaged in strife and war with their neighbors, their losses, as has been frequently said by writers on the subject, must have been very heavy. They are said also to have recruited their forces by adopting into the confederacy those of their antagonists whom they had captured in battle. In this way they maintained their war-like strength and influence.

In their forays away from home it is hardly to be presumed that they introduced their handicraft, to any great extent among the peoples with whom they came in contact. Fighting men do not disseminate the peaceful arts practised at home, their business is to fight. Knowledge of peaceful occupations is generally exchanged by friendly intercourse between peoples.

It is fair to presume that, on adopting some of the men whom they had captured in the fight, into the tribes, the women folk of these men went with them, for it is a custom the world over, that the woman will go with her man, when circumstances permit. Conceding the proposition that there are two kinds of pottery ware in the Iroquois country, is it not probable that one of these was brought in by the women of the alien tribes?

Admitting, again, that there are two distinct kinds of ware, which of these is Iroquoian and which the ware of the Algonquin neighbors?

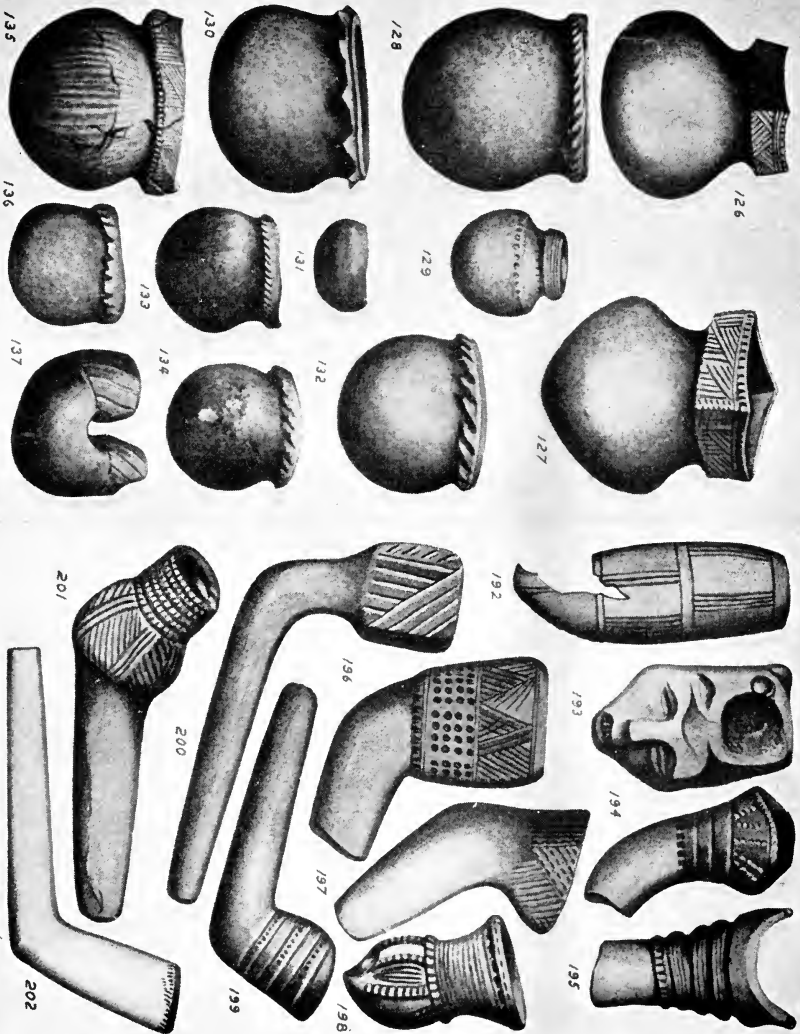


Plate. No. 11. Copies of two plates from "Earthenware of the New York Aborigines," by William M. Beauchamp, S. T. D., Bul. No. 22, N. Y. State Museum.

None of the wares outside of the State of New York, seem to resemble that most commonly illustrated by Dr. Beauchamp, therefore is it not reasonable to presume that the types he shows are the typical Iroquoian Pottery and Pipes?

Dr. Beauchamp some years ago furnished the writer with specimens of potsherds which have been described as Mohawk ware, but it does not seem that the doctor includes these in his bulletin to any extent. May these not be Algonquin types which were taken into the territory or made by Algonquin women, as has been described?

These are all tentative propositions and are here stated, because the writer has found difficulty in finding anyone who was willing to put his finger on this specimen and say that it is Iroquoian or on that specimen and express the definite opinion that it is Algonquian.

It would seem that among peoples of such marked and different personality there ought to be noticeable differences in handiwork, and it may be that some of them are shown in this paper, among the types of Pottery and Pipes illustrated.

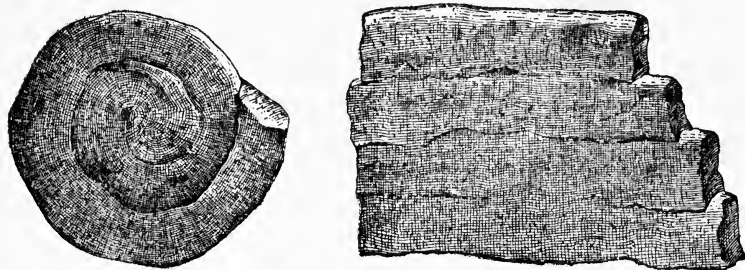


Fig. 5. Coil method of building up a vessel.

Wm. H. Holmes: 20th Ann. Report Bur. Am. Eth., Washington, D. C.

DESCRIPTION OF PLATE NO. 12.

Figs. 1, 2 and 3 in this plate show three clay vessels all of which were found on May 16th, 1891, on Honeyoye creek, Ontario county, N. Y. The height of these pots is 7 inches, $5\frac{1}{2}$ inches and $6\frac{1}{2}$ inches respectively. The smallness of the pictures fails to convey a correct idea of their size, and for this reason measurements are given.

From the general features of all of these specimens and the location in which they were found, they may be safely classified as Iroquoian. They are in the collection of Mr. W. A. Hakes, of Binghamton, N. Y., who kindly furnished the pictures for illustration.

Fig. 4 illustrates a large fragment of an unusually fine pot, found about the year 1910, at Northumberland, by Mr. Frank D. Sholvin, of that place.

A restoration of this vessel from the fragments indicates that it had an approximate diameter at the rim of $13\frac{1}{2}$ inches, was slightly larger at the body and was from 14 to 15 inches high. The shell had quite a uniform thickness of $\frac{1}{4}$ inch. The decoration, which is very simple, was etched on with a bold and free hand.

Among over five hundred pot rims examined by the writer, from the upper Susquehanna region, there does not seem to be a single other example of this style of rim. The fragment illustrated measures 9 inches at the rim.

Northumberland, as has been said elsewhere, seems to have been a very important centre in Indian days. It was from this point that Conrad Weiser started on several of his trips to the Alleghany river region near Pittsburgh, in his efforts to hold the "French" Indians from taking part in the "French and Indian War" against the English. Weiser lived a few miles down the river, on the Sunbury side, in a house which I understand is still standing. It was at this point that the dreaming incident, between Weiser and the Indian chief, is said to have taken place, in which the chief secured a fine rifle and Weiser got title to the isle of Queue, at Selinsgrove, as is described in the Archives of Pennsylvania.

Fig. 5 shows a most remarkable steatite Bowl, which is 20 inches in diameter and $6\frac{1}{2}$ inches high. It was found on Hoke Island in the Susquehanna river, opposite the mouth of Marsh Run, York county, Penn'a. In all its features it is the finest specimen of which the writer has any knowledge. It is now owned by J. E. Vandersloot, Esq., of York, Penn'a.



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Plate No. 12. First three vessels from Honeyoye Creek, Ontario Co., N. Y. They are 7 inches, $5\frac{1}{2}$ inches and $6\frac{1}{2}$ inches high, respectively (Hakes). Fig. 4. Fragment of a vessel approximately $13\frac{1}{2}$ inches in diameter at the mouth (Wyo. Hist. and Geo. Soc.) Fig. 5. Steatite bowl 20 inches in diameter, $6\frac{1}{2}$ inches deep. York Co., Pa. (Vandersloot.)



Plate No. 13. Fig. 1. Pike Co., Pa., is 4½ inches high (Wyo. Hist. and Geo. Soc.) Fig. 2. SNEHEQUIN Pot is 7 inches high (Coddington). Fig. 3. Lanesboro, Pa., is 7 inches high (Hakes). Fig. 4. Binghamton, N. Y., is 13½ inches high (Coddington).

DESCRIPTION OF PLATE NO. 13.

Fig. 1 in this plate is $4\frac{1}{2}$ inches high and $4\frac{1}{2}$ inches in diameter. It has been given the name of the "STEPHEN VAN RENSSELAER POT." It was found in the valley of the Delaware in Pike county, Penn'a. Capacity $1\frac{1}{2}$ pints.

While this is quite a small vessel it is very symmetrical and is strong and serviceable, the walls being as thick as in many vessels of much larger size. It is now owned by our Society, by purchase. (Compare with Plate No. CXXIX 20th An. Rep., Bureau of A. Eth. by Wm. H. Holmes)

Fig. 2 is 7 inches high and 6 inches in diameter of body. It was found on the bank of the Susquehanna river, near Sheshequin, Bradford county, Penn'a, where it had been washed out from an Indian grave. The clay was tempered with broken shells. It is now owned by J. W. Coddington, Esq., of Towanda, Penn'a. We have named this the "SHESHEQUIN POT."

Fig. 3. This vessel was found at Lanesboro, Susquehanna county, Penn'a. It is 7 inches high and $6\frac{1}{2}$ inches in diameter.

Fig. 4 illustrates a fine large vessel, $13\frac{1}{2}$ inches high and $10\frac{1}{2}$ inches in diameter, and was found on McDonald Avenue, Binghamton, N. Y., in excavating for some repairs to the street. Figures 3 and 4 are the property of Mr. W. A. Hakes, of Binghamton, N. Y., who furnished the photographs from which to make the engraving. Fig. 4 seems to have Iroquoian features.

Fig. 5, "THE TIOGA POT," is in the collections of our Society. It is $9\frac{1}{4}$ inches high and 8 inches in diameter and has a capacity of $3\frac{3}{4}$ quarts. This vessel was found under a ledge of rocks on the mountain side, near Babbs creek, Tioga county, Penn'a, in the year 1876, by a party of hunters.

It was slightly broken but has been well restored to its original condition. From the thinness of the walls and the fragility of the entire vessel, it could hardly have been used otherwise than as a storage vessel. Mr. A. C. Parker, of Albany, classes this specimen as typically Algonquian.

This plate does not give any idea of the relative sizes of the vessels shown, as will be noticed by the dimensions given of each specimen.

INDIAN CLAY PIPES.

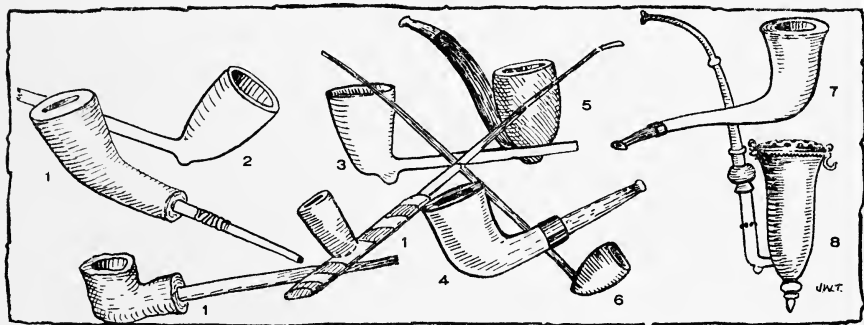


Fig. 6. Various forms of pipes, the angle of the stem to the bowl being a distinctive feature. Nos. 1, 1 and 1 are Indian types, the German pipe, No. 8, showing the greatest variation.

“Old King Cole was a jolly old soul,
O’ a jolly old soul was he:
He called for his *Pipe* and he called for his *Bowl*,
And he called for his fiddlers three.”

With the authority of this good old English classic, no hesitation is felt in associating Pipes with Bowls and Pots in a paper of this kind. But there is a better reason for such association; many of the Indian pipes were made of the same materials and by substantially the same methods as were used in making the pottery ware. From the rarity of pipes found in the North Appalachian region, it hardly seems that the habit of smoking was a daily or frequent practice, as it is to-day among so many of our people. Had smoking been a common practice, whole pipes or fragments of pipes ought to be more numerous than we find to be the case. Every white man who smokes has at least one pipe, oftener several, and, if the Indian was as well off in this respect there should be one pipe to each smoker. We do not find traces of so many pipes. They were as well made as the pottery and would resist the action of time and the weather as well as the pottery ware.

May it not be that, as smoking the Calumet pipe was a

ceremonial accompaniment of councils and meetings of tribal importance, the ordinary pipe also came into use only occasionally, in the intercourse between individuals or families? Perhaps in the lesser ceremonies of betrothals, marriages or some other customs of these people.

Comparing the pipes shown in this paper with those illustrated by the Rev. Dr. Wm. M. Beauchamp in "Earth-ware of the New York Aborigines", we find them to be of very different types in shape, decoration and general appearance.

It is fair to presume that the maker of a pipe had a picture in his mind of just the kind of a pipe he meant to work out, before he commenced work upon it, and that he carried out his design. This was especially true if the pipe was an original design and not a copy of one which he had before him. The Indian does not seem to have been much given to copying. In thus designing a pipe exactly the same mental faculty was exercised as is used by the architect when he designs the most elaborate building.

The pipes of the New York region are so far different from those shown in this paper, that it does not seem as though people of the same habit of thought and artistic taste could have made both of them.

The New York Indians generally expressed themselves in curved lines, circles and life figures and the edges of the pipe bowls and pot rims were generally rounded. In the pipes illustrated here it is seen that the straight line was principally used both in design and decoration and the edges are square and clean cut. Life forms are very rarely seen and when found are probably intrusive.

The New York designs show a reaching out for more complex and elaborate effects, which have not yet been fully worked out in the best forms. The Susquehanna river worker confines himself to more simple lines but rarely shows a departure from a sensible good taste.

All of the pipes of the region of which the writer could secure pictures are illustrated here.

It seems to be true of the clay pipes, as has been said of the pottery of New York, that there are two distinct and widely differing styles found in that territory.

It does not seem to have been a custom to bury pipes with the dead in the Susquehanna valley in Pennsylvania, as but few specimens have been recovered from such sources.

A PSYCHOLOGICAL SPECULATION.

Among all primitive peoples those things which were not palpable to their senses were surrounded by the mysteriousness of the unknown.

In our enlightened day we know that some of the most powerful forces of nature are all around us in a state of balance and apparent rest, so far as we get any impressions of them through our senses. Unless they are thrown out of their normal equilibrium we know that they preform their work silently and without any commotion or visible disturbance. The force of gravity, electricity, the evaporation of moisture into the upper air, by the heat of the sun, and the silent but powerful growth of plant life are a few of these mighty forces.

We have even learned how to disturb some of these forces in a systematic and controllable way, so that we lead them to perform useful services for us.

Uncultured man had some indistinct and misty perceptions of the existence of these invisible forces, to which he ascribed qualities which they do not possess and he also had false ideas of the causes for their actions when disturbed, the effects of which he could see.

On the border line between the material things which have body, weight and solidity and the intangible things, primitive man saw the fogs and mists produced by nature in a manner incomprehensible to him; he, himself, could produce smoke, at his pleasure, when he had learned to make fire, but he had no definite ideas of the real character of this smoke, so it still lay within the bounds of the mysterious and strange.

In our English language there seems to be some relationship between the words *mysterious* and *mist*, both of which express the idea of that which is hazy, uncertain or not clearly seen. All through the history of our race we find records and mention of secret or hidden ceremonies in which smoke or mist have a prominent place.

It seems to have been the belief of primitive peoples that the all powerful or good influence was located in the upper atmosphere above the earth, and they may have inferred that smoke, which rises in the air and imperceptibly fades away, was in some way a means of closer communion with this good, or at least powerful influence.

The American Indian, as a preliminary to all important or ceremonial meetings passed the Calumet Pipe around the circle, from hand to hand, and each participant was expected to draw a few mouthfuls of smoke from it and exhaust it into the air. This practice of smoking did not at all consist of each man consuming the tobacco in a pipe bowl or cigar, as we do in some of our social gatherings, but partook altogether of a ceremonial observance. Could they have held the belief that the smoke from the Calumet brought them into closer relations with the good influence whose presence they desired to have with them in their deliberations?

The fact that we have no definite information from the Indian himself, as to the exact office which the smoking of the Calumet filled in their ceremonies does not seem to have any negative weight in a discussion of the question.

We feel quite as great a reluctance, as the Indian may have felt, in exposing or explaining our most secret and sacred thoughts and feelings to strangers or those who are not friends. Such things are not to be lightly spoken of and especially not to satisfy mere idle curiosity or prying inquisitiveness, even though the object may be for an academic understanding of the thing inquired about.

It is not intended here to discuss this matter at length, but merely to suggest that the use of the smoking pipe may at all times have had something of a ceremonial meaning attached to it among the American Indians, of the North Appalachian region.

DESCRIPTION OF PLATE NO. 14.

All of the pipes shown in this and Plate No. 15 were found in the region under consideration, and are composed substantially of the same materials and were made by the same processes as the clay pottery. It is generally understood that the pottery was made by the women, while the men made the pipes.

Nos. 2-3-4-10-12-13 and 14 are the property of Dr. T. B. Stewart, of Lock Haven, Penn'a, and were found in that locality, which is about seventy miles up the west branch of the Susquehanna river from Northumberland, Penn'a.

Nos. 1-6 and 11, also owned by Dr. Stewart, were found in Lancaster county, Penn'a, about 75 miles down the Susquehanna river from Northumberland.

No. 7 is in the Griffith collection of our society, and was found above West Pittston, near the end of the Coxton bridge of the Lehigh Valley railroad a number of years ago.

Nos. 8 and 9 are in the Christopher Wren collection of our Society and were found in Wyoming Valley, which is about sixty-five miles up the river from Northumberland. No. 9 seems to have had some figure, perhaps a face, luted on the front of the bowl, which has become detached from it.

No. 5 was found at Northumberland by Mr. Frank D. Sholvin, of that place, and is also in the Wren collection.

There seems to be but slight resemblance between these pipes and those which Dr. Beauchamp classes as Iroquoian, in the plate copied from Bulletin 22. No further comment is made on this plate, as the engraving shows details better than they can be described.

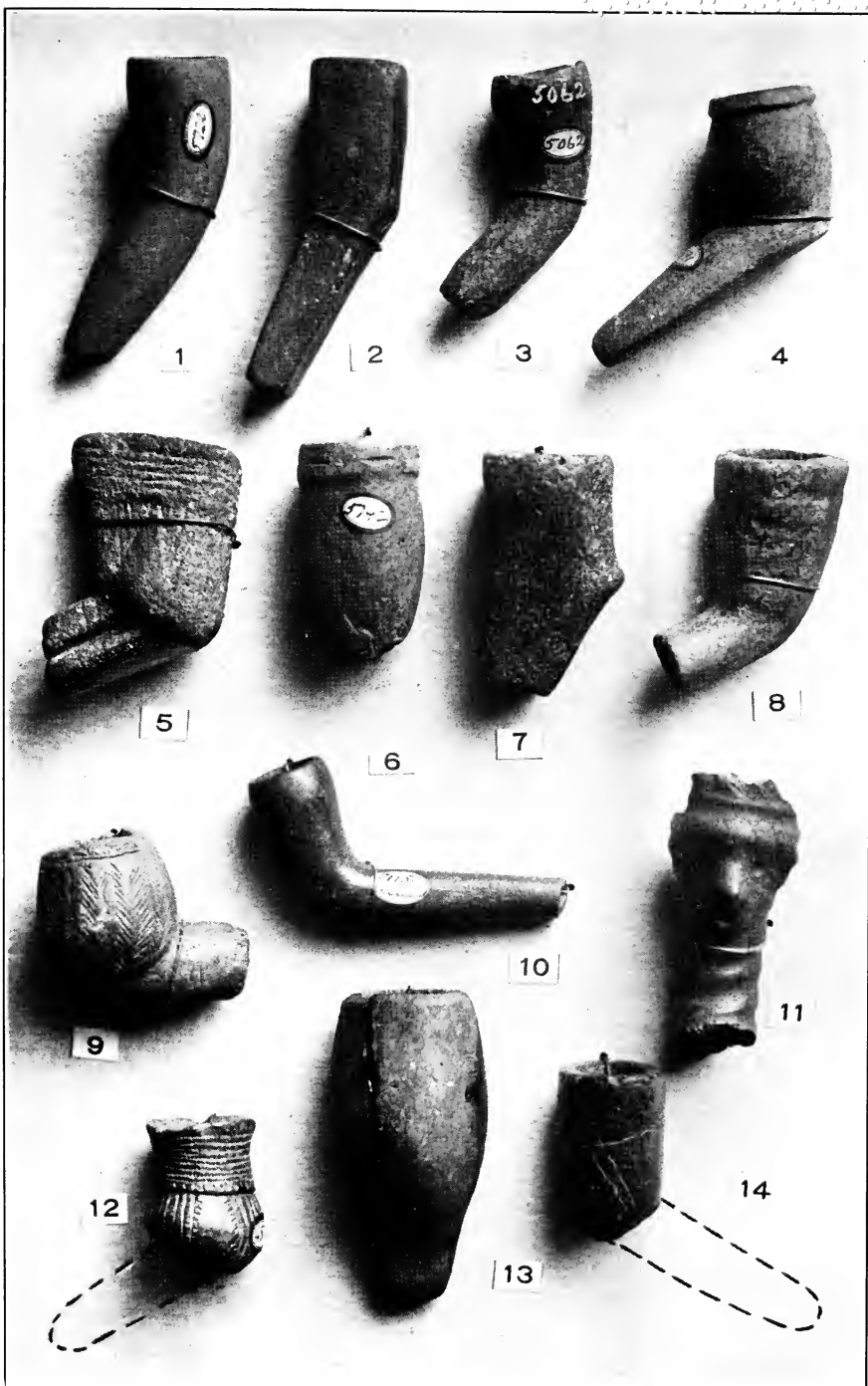


Plate No. 14. Indian Clay Pipes from Lancaster, Northumberland, Clinton and Luzerne Counties, Pa. (Stewart and Wyo. Hist. and Geo. Soc.)

LOCATIONS WHERE PIPES WERE FOUND.

	Length.
No. 1, Camp site, Mountville, Lancaster Co., Pa.....	2 $\frac{5}{8}$ "
No. 2, Grave, Packer farm, W. Lock Haven, Pa. 1898	3 "
No. 3, Surface, Camp site, Lock Haven, Pa., 1898..	2 $\frac{1}{4}$ "
No. 4, Grave, Packer farm, W. Lock Haven, Pa. 1897	3 "
No. 5, Camp or village site, Northumberland, Pa. about 1909	2 $\frac{1}{4}$ "
No. 6, Island in Susquehanna, Lancaster Co., Pa.....	1 $\frac{3}{4}$ "
No. 7 and 8, Wyoming Valley, Pa.	2" and 2 $\frac{1}{4}$ "
No. 9, Shawnee Flats, Pa. (Wyoming Valley) 1902..	2 "
No. 10, Great Island, Lock Haven, Pa. 1889	3 "
No. 11, Island in Susquehanna river, Lancaster Co., Pa.	2 $\frac{1}{2}$ "
No. 12, Grave, Hepburn farm, Jersey Shore, Pa. 1896	1 $\frac{3}{8}$ "
No. 13, Packer farm, W. Lock Haven, Pa., 1897	2 $\frac{3}{4}$ "
No. 14, Indian Town, east of Lock Haven, Pa., 1906.	1 $\frac{1}{2}$ "

Compare the pipes shown in this plate and Plate No. 15 with Figs. 144-147-150-213-214-222 and 227 in J. D. McGuire's "American Aboriginal Pipes and Smoking Customs", Ann. Rep. of Smithsonian Institution for 1897.

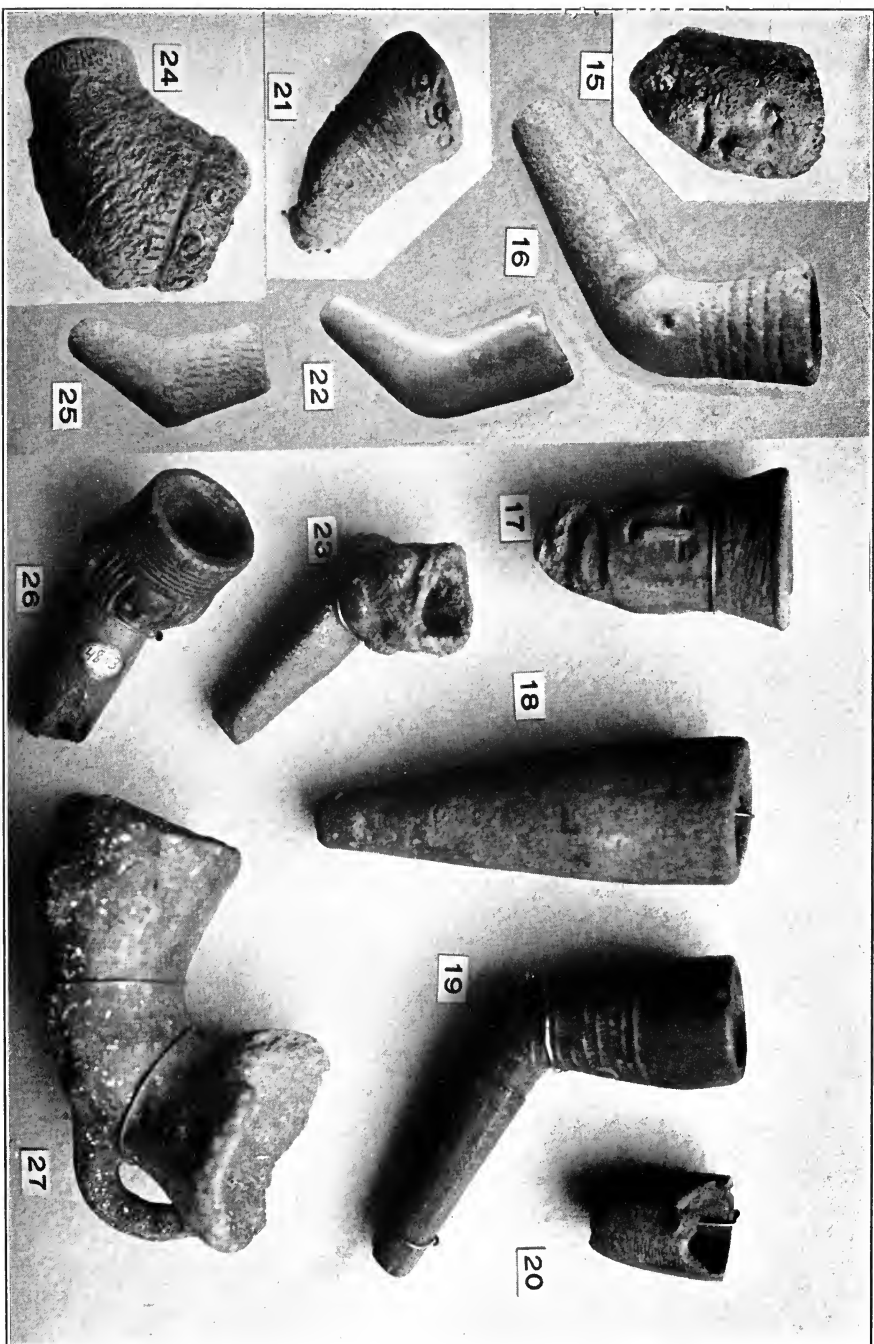
DESCRIPTION OF PLATE NO. 15.

All the pipes on this plate are from the region under discussion. Nos. 15-21 and 24 are owned by Mr. Charles M. Johnston, of Danville, Penn'a. They are all of one type, made of a light colored clay, and seem to be unique, differing from all other Indian clay pipes which the writer has seen. In general appearance they seem to be fat or chubby, I know of no better words to describe them. The walls of the bowls are exceptionally thick, varying in that feature from $\frac{1}{4}$ inch in No. 21 to $\frac{3}{8}$ inch and $\frac{7}{8}$ inch in Nos. 15 and 24. The stem holes in Nos. 15 and 24 are large enough for the use of an auxiliary stem of bone or quill, while No. 21 will barely admit a darning needle. These seem relatively smaller than the other pipes shown in this plate, because the photograph is on a smaller scale.

Nos. 16-22 and 25 are the property of Mr. Dudley A. Martin, of Duboistown, Lycoming county, Penn'a. No. 16 was found at Duboistown. No. 22 is made of stone, and illustrates that the same shaped pipes were made in clay and stone. No. 25 was found near Williamsport, Penn'a.

Nos. 18-20-26 and 27 are owned by Dr. Stewart, of Lock Haven, Penn'a, and are located in the list given below. A comparison of No. 26 with Figs. 198 and 201 of Dr. Beauchamp's Bulletin 22, shows them to resemble each other somewhat. No. 27, located by Dr. Stewart as being found in Beaver county, Penn'a, is a very remarkable specimen for this region. Both of the openings, of bowl and stem ends, are so large and bell like, as to cause speculation whether this was used as a pipe. The clay in this specimen is tempered with shells. (Compare with pages 173 and 186 "Certain Aboriginal Remains," Black Warrior River, C. B. Moore; also with Plate XXXIII 20 An. Rep. B. A. E., Wm. H. Holmes.)

Nos. 17 and 19 are in the collections of our own Society; No. 17, from which the stem has been broken, was found near Wilkes-Barre. It is embellished with three good copies



of the human face, distributed at equal intervals around the bowl, one being well shown in the plate. The workmanship is exceptionally good and indicates that the maker of the pipe had a clear idea of just what he meant to do before he began his work.

No. 19 is another very well made pipe, which was secured by our Society in the purchase of the "Berlin Collection" several years ago. It was found within our field, in a grave near Quintophella creek, Lebanon county, Penn'a.

No. 26 was found in Wyoming Valley. It is nicely decorated with nine protuberances on the bowl, evenly spaced, and with lines radiating from these knobs. The general effect is very good. (Compare with C Plate CXXIV 20 An. Rep. B. A. E., Wm H. Holmes.)

LOCATIONS WHERE PIPES WERE FOUND.

	Length.
No. 15 Danville, Montour Co., Pa.	2¼"
No. 16 Duboistown, Lycoming Co., Pa.	3¾"
No. 17 Wilkes-Barre, Pa.	2¼"
No. 18 Contestoga Creek, Lancaster Co., Pa.	4 "
No. 19 Lebanon Co., Pa.	4 "
No. 20 Lancaster Co., Pa., 1892	1¼"
No. 21 Danville, Pa. (near the Asylum)	2¾"
No. 22 Dunnstown, Clinton Co., Pa. (stone pipe) ...	2½"
No. 23 Wyoming Valley, Pa.	2⅝"
No. 24 Mahoning township, Montour Co., Pa.	3 "
No. 25 Williamsport, Pa.	2 "
No. 26 Blackwell farm, Lancaster Co., Pa., 1896	2½"
No. 27 Grave Beaver Co., Pa., 1898	4 "

These pipes are photographed on different scales, and the plate does not give an idea of relative sizes to the eye.

DESCRIPTION OF PLATE NO. 16.

This large fragment of a beautiful large vessel was found, by some boys, at the bend of the river below Wilkes-Barre, Pa., after the unusually high water in the Susquehanna river in the year 1902, which had washed it out.

From the account given by the boys, of the manner in which they found it, they probably had a very large part of the entire vessel in their possession. They set it up and threw stones at it until it was broken into a number of pieces.

This pot has the beaded decoration below the rim, and it may be remarked that among 200 rims from Wyoming Valley, examined by the writer, eight, or two per cent. had this style of decoration.

From an approximate restoration of the vessel, using the fragment as a guide, it must have been a large one, the diameter at the mouth being 14 inches and of the bowl about 18 inches. The walls were of a uniform thickness of $\frac{1}{2}$ inch. The fragment illustrated measures 10 inches at the rim.

Taking the body to have been nearly globular the capacity would have been about 40 quarts.

All of the features of this specimen were exceptionally fine and the writer has seen few in the region which excelled it. Perhaps as good a short description as could be given of this vessel would be to say that it had much of the beauty of simplicity.

Elsewhere in this paper a probable purpose for this beading at the rim, besides decoration, is discussed. In some cases the beading showed on the outside and in other cases on the inside of the rim; in the latter manner it did not add to the beauty of the vessel much, if at all.

Prof. C. C. Willoughby in his contribution to the Putnam Anniversary volume in 1909, on "Pottery of the New England Indians" page 84, etc., classifies this style of decoration as archaic Algonquin, because it has been found deeply buried in shell heaps in the tidal regions of Maine. It is found scattered over much of the territory covered by this paper, especially in the watershed of the two branches of the Susquehanna river.



Plate No. 16. Fragment of vessel, about one-half actual size. The vessel measured approximately 14 inches in diameter at the mouth and 18 inches at the body. Capacity about forty quarts. (Wyo. Hist. and Geo. Soc.)

POTSHERDS.

"Whether the pitcher hit the stone, or the stone hit the pitcher, it goes ill with the pitcher."

Sancho Panza, *Don Quixote*, Chap. 43.

It is a common attribute of humanity to throw aside those things which have been useful to them without regret, and, it would almost seem at times, with contempt, or complete forgetfulness of the good services which have been rendered, or as though the becoming broken or worn out were a fault in the thing itself. This is not confined to inanimate things but in these days of strenuous striving for gain, selfish man has been able to convince his own conscience that the faithful servant, "who has served his generation" is not worthy of further consideration.

Potsherds or broken vessels are peculiarly in the class of things which are cast aside and utterly rejected as useless and of no value.

Indications of this habit in us run through all the literature and history of our race.

Notwithstanding what has been said, it may be that there is still a lingering interest in the rejected things. We go into the fields, and the caves in the rock and we dig in the earth to find vestiges of those peoples who have gone before, with a view to reading their history. Much of what we know about prehistoric man has been recovered in this way and to the collector of Indian artifacts, who sees in them no more than a curiosity or relic; we would say, do not ignore the fragments.

"You may break, you may shatter the vase if you will,
But the scent of the rose will cling to it still."



DESCRIPTION OF PLATE NO. 17.

All of the specimens shown in this plate are from Wyoming Valley. Fig. 1 was found on the Thomas P. Hunt farm on Wyoming Flats, and was exposed by high water in the river in 1913.

No. 1 was quite a large vessel, being $10\frac{1}{2}$ inches in diameter at the mouth. The body was probably not much larger, as the sides of the vessel seem to have been nearly perpendicular, without either neck or collar, resembling Plate No. 2.

The style of decoration is similar to several other specimens shown. The finger prints show where the finger was held when pressing the beading through. The walls were quite uniformly $\frac{3}{8}$ of an inch thick. The color was a bright yellow throughout, there being no black fire mottling upon the body to indicate use over the fire. In looking at a vessel of this color one would think that it was not hard or strong, yet in this instance the material is so hard that a file does not easily make an impression upon it.

Fig. 7 was also found on the Hunt farm, after the freshet of 1902, when the writer secured it. The boy who picked it up said that it was nearly whole, but seeing no value in it, he threw it down and shattered it into many pieces; it was quite small but of fine shape.

Fig. 2 was found on the west bank of the river, at the bend below Wilkes-Barre. It shows exceptionally good taste in the decoration, which is of a rare design. In this case the pitted marks, just below the collar, are shallow and were not forced through to produce the beading as in other cases. They were for purely decorative effect. The perpendicular lines running down from the rim are drawn with care and are also rarely seen in the region. Fig. 4 also shows the pitting solely for decoration.

Figs. 3 and 10 are illustrated because they show decorative features but rarely seen. Fig. 6 has an unusual scalloping on the edge of the rim and is decorated in the same design on the collar inside and outside.

Fig. 5 is decorated very neatly with a plaited or twisted strand of some kind which is not often met with in this region. All the specimens in this plate should be examined under a glass to fully appreciate the decorations.

Figs. 8 and 11 are fragments of pipe bowls, which show very tasty decorative features, in much finer figures than are seen in pottery. The figures are $\frac{3}{4}$ actual size.

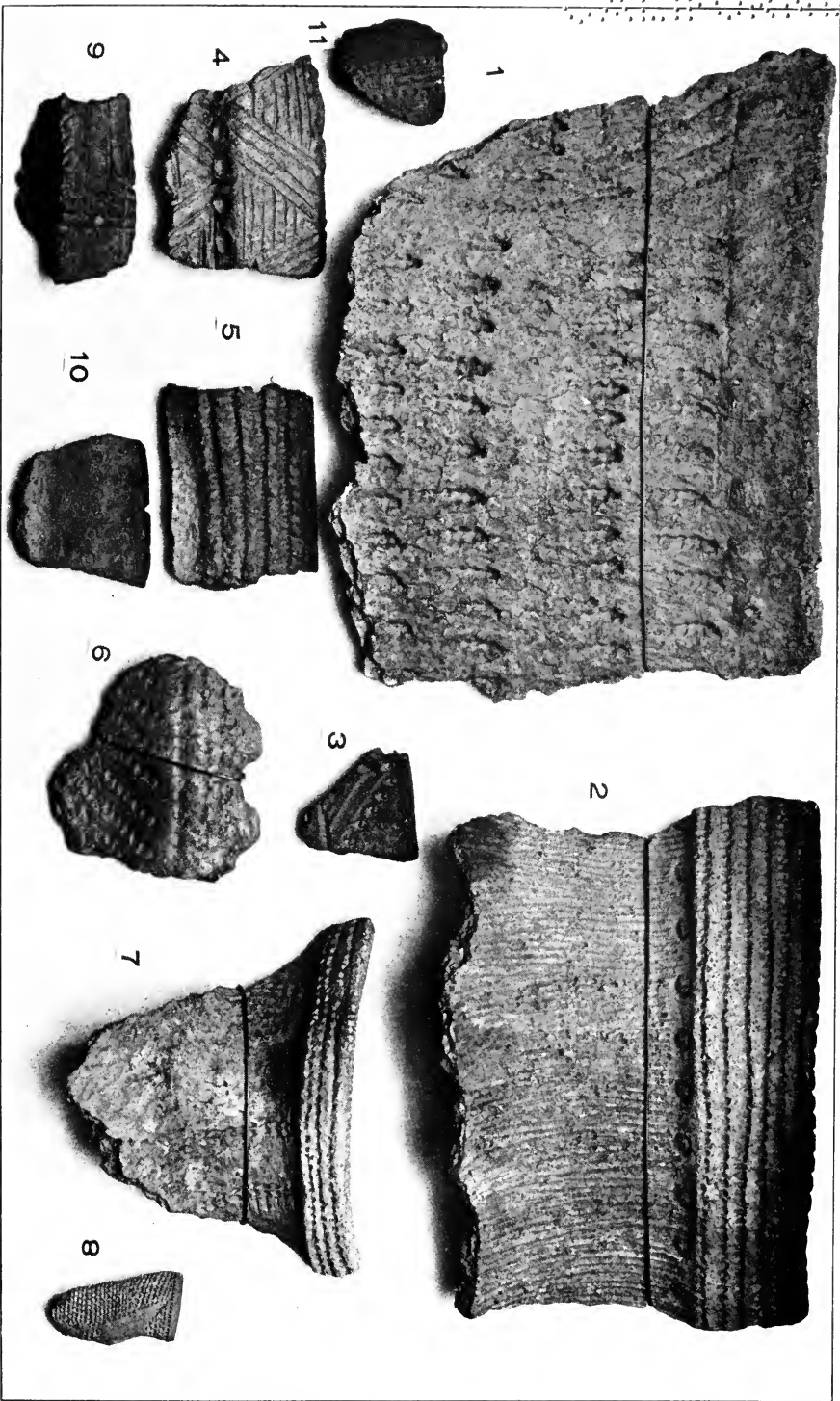


Plate No. 17. Wyoming Valley Potsherds, showing decorative features and form of upper part of vessels. (Wyo. Hist. and Geo. Soc. (About three-fourths actual size.)

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ALBANY, N.Y.

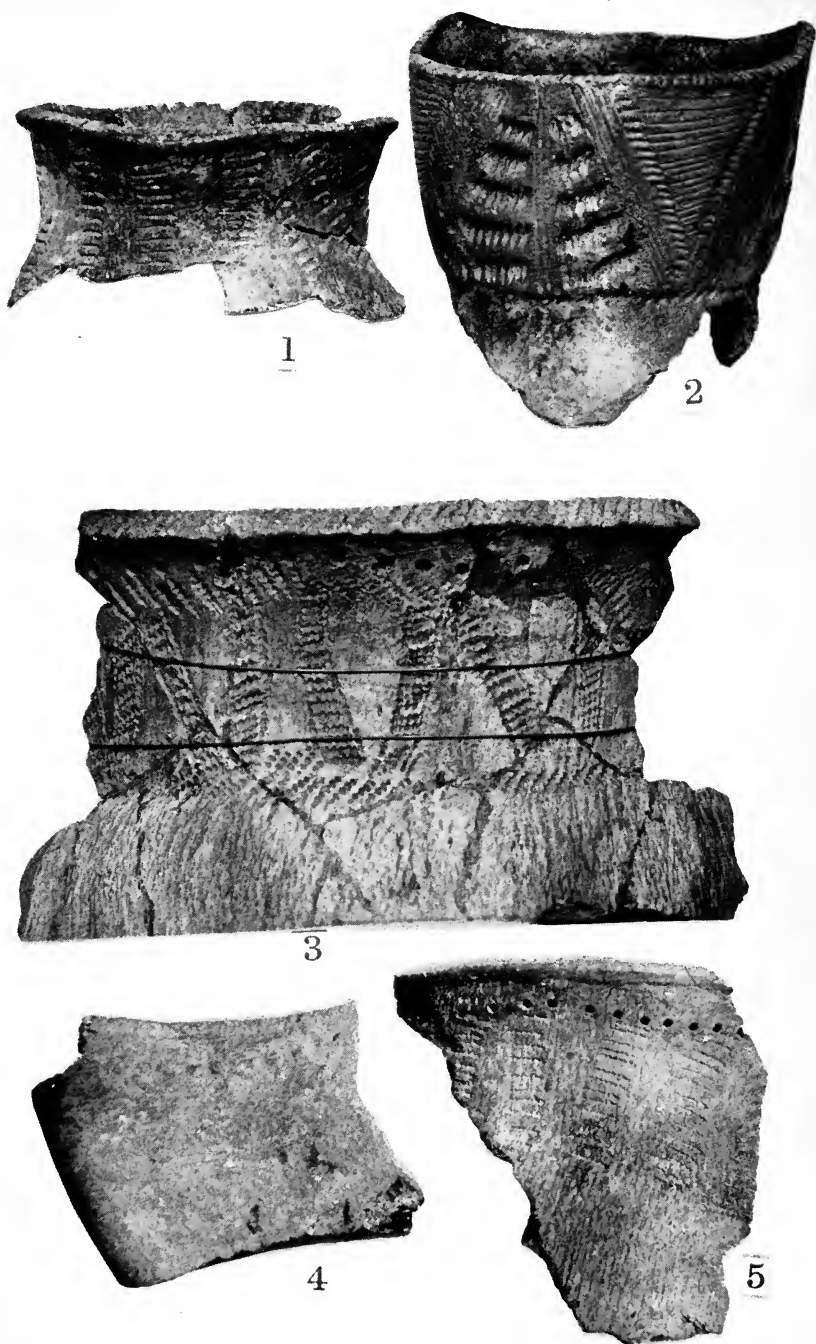


Plate 18, Figs. 1, 2 and 3. Wyoming Valley Potsherds (Wyo. Hist. and Geo. Soc.). Figs. 4 and 5 show inside and outside of beaded pot rim (Everhart Museum).

DESCRIPTION OF PLATE NO. 18.

Fig. 1 illustrates a fine small rim fragment found with figure 3 on the "Broadhead" farm, Wyoming flats, by Mr. John Sutter, in the summer of 1913. They were presented to our Society and are in its collections. This specimen shows no collar whatever, the neck expanding to the rim, forming a moderately flaring mouth. The diameter at the mouth is $5\frac{1}{4}$ inches.

Fig. 2 shows the top of a finely decorated vessel which is almost a counterpart of the "White Haven" pot shown in Plate 4. It is in the collections of our Society. The rim should have three points, but Miss Baker, in restoring it slightly, failed to notice this feature. The vessel is $5\frac{1}{2}$ inches across the top.

Fig. 3 illustrates the upper part of a quite large vessel. It was found by Mr. Sutter as described above. The peculiar and distinctive feature of this specimen consists in the unusual proportion of the entire height which is given to the neck, which is rare. Another unusual feature is the decoration; Dr. Beauchamp compares this to the quill or bead decorations on moccasins, in his "Earthenware of the N. Y. Aborigines." It resembles No. 27 shown by him. The fragment measures 7 inches wide at the rim. The vessel is bright yellow, inside and outside, and as the walls are thin, it does not seem that it was used as a cooking utensil, but was probably a storage pot. The finger marks show also in this case on the beading, as was noticed by Miss Baker.

Figs. 4 and 5 are good sized fragments of a large pot or bowl, very similar to the Griffith bowl, illustrated in Plate No. 2. The fragments shown are $4\frac{1}{4}$ and $4\frac{1}{2}$ inches wide, respectively at the rim, and the vessel had a diameter, approximately, of 12 inches at the mouth. These sherds are in the Dr. Hollister Collection of the Everhart Museum at Scranton, Penn'a, and are here illustrated by the courtesy of Mr. R. N. Davis, Curator of the Museum.

DESCRIPTION OF PLATE NO. 19

This plate shows specimens from two locations on the west branch of the Susquehanna river and a single specimen from Yadkin county, North Carolina, for comparison.

Figs. 1 to 7 inclusive are from Lock Haven, Penn'a.

Figs. 8 to 12 inclusive are from Northumberland, Penn'a.

Fig. 13 is from Yadkin county, N. C., and was furnished by Mr. R. D. Wainwright, of Roanoke, Va.

It will be seen in the Lock Haven sherds, that the beaded style of decoration was considerably used in that location. Among thirty potsherds furnished by Dr. T. B. Stewart, six had this decoration. This, however, cannot be taken as a general average, as the Doctor may have sent a greater proportion of these than would obtain in a full showing of the field. All of the types here shown from Lock Haven can be duplicated in Woymig Valley, and it would seem that the occupants of the two regions, separated by nearly 100 miles, were closely related.

The clays used at Lock Haven seem to be of better quality than we have here at home, but the workmanship seems to be more poorly or carelessly done. The lack of good square edges and clean cut outlines is noticeable.

The limited number of specimens from both Lock Haven and Northumberland merely suggest the wares of those localities. Although an earnest effort was made to secure more of these potsherds, it produced small results, and evidently the collectors in the two places have neglected to give attention to collecting fragments of pottery. They have failed to appreciate that, with the rarity of whole vessels, the pottery ware can only be studied through such fragments as can be found.

Figs. 8 to 11, from Northumberland, are tempered with vegetable matter of some kind which has decayed away, so that they are quite light and porous and seem as though they might float on water.

Fig. 9 shows the human face modeled exactly like specimens from the Iroquois country of New York, and there can be but small doubt of its having been made by those people.

Fig. 12 was found at Northumberland and Fig. 13 in Yadkin county, N. C., and a comparison of them will show that they are almost identical, indeed the similarity is so great even to the material used, that the writer is led to believe that figure 12 was brought bodily from North Carolina. The Northumberland sherds were gathered by Mr. Frank D. Shovlin.

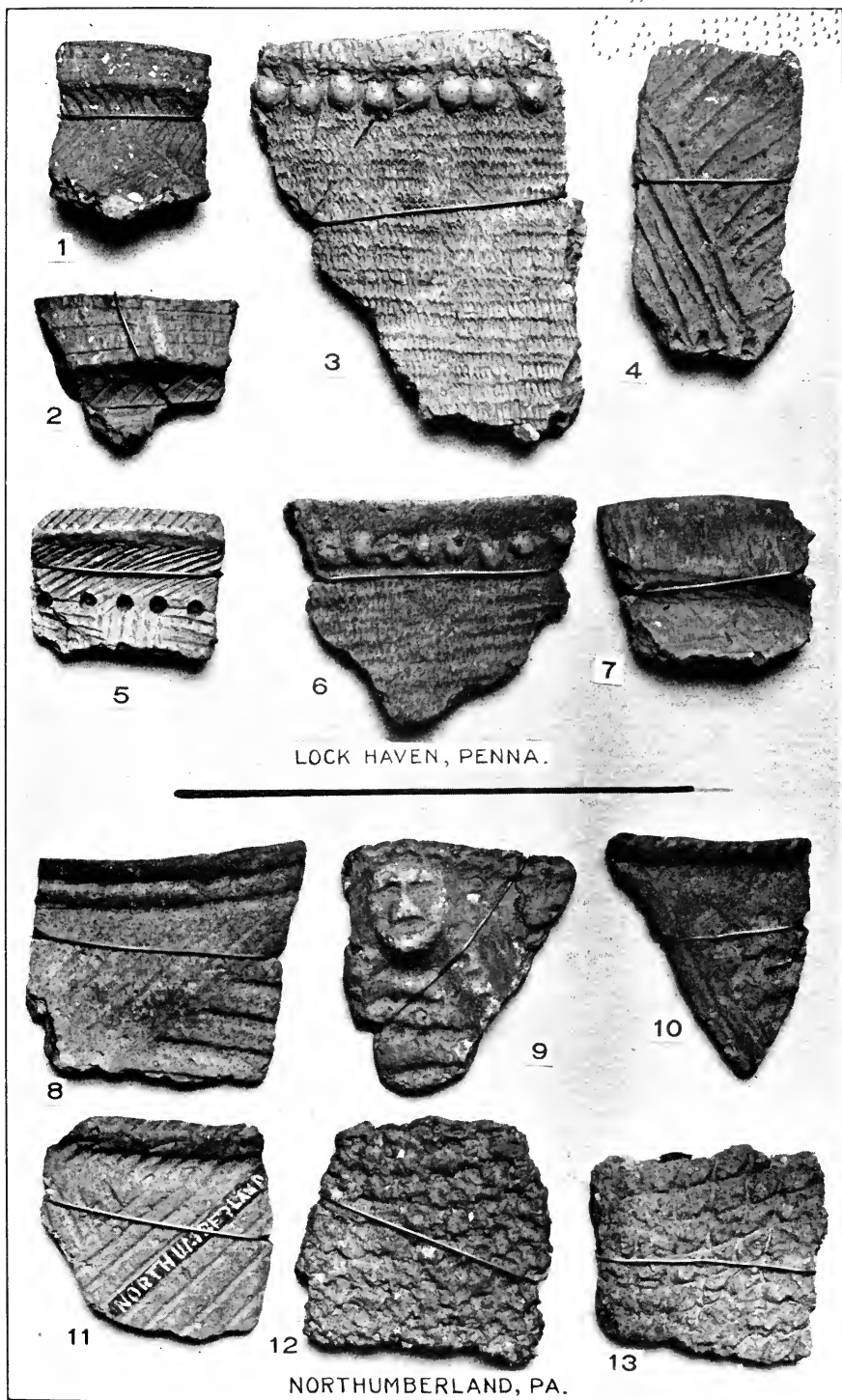


Plate No. 19. Potsherds from Clinton and Northumberland Counties, Pa., and Yadkin Co., N. C. One-half actual size. (Stewart and Wren.)

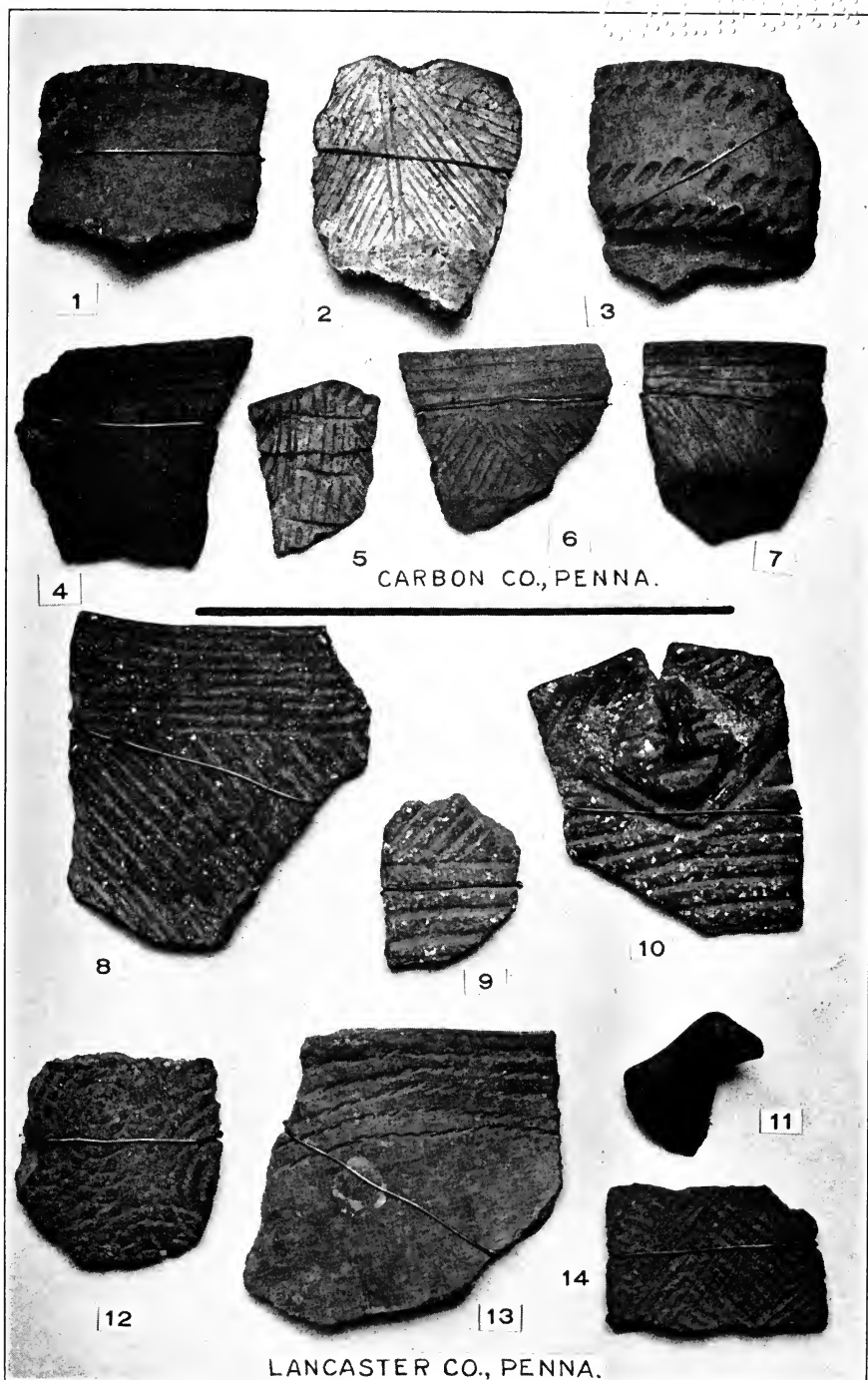


Plate No. 20. Potsherds Carbon and Lancaster Counties, Pa. (About one-half actual size.) (Wren.)

DESCRIPTION OF PLATE NO. 20

This plate shows specimens from Carbon and Lancaster counties, Penn'a.

Figs. 1 to 7, inclusive, are from "Wild Creek Kettle", Carbon county, and were furnished by Mr. A. W. Gimbi, of McAdoo, Penn'a. They were secured at the same place as the pots shown in Fig. 3, Plate No. 7 and Fig. 1, Plate No. 9. The location is described elsewhere.

The vessels, of which these are fragments, were excellently well made of fine clays and the decorations indicate good workmanship. Many Susquehanna river specimens have the same features throughout as are here illustrated. (Compare Fig. 9 with Plate No. 21, Shawnee Flats.)

Figs. 8 to 14 inclusive, are from Lancaster county, Penn'a, and were furnished by the Rev. H. S. Brinser of that place. Figs. 8-9 and 10 are made of fine material tempered with crushed shells and are very strong. The face shown on Fig. 10 was luted on after the vessel had been finished and a part of it has scaled off. (Compare with Plate CLIV, *a* and *b*, 20th An. Rep. B. A. Eth., by Wm. H. Holmes.)

Fig. 11 shows a rather poor picture of a bird's head which was very well modeled, and there were lines also which indicate that there was a representation of wings shown, on the vessel. The head may have projected from the rim, and been a handle for a pot. This specimen appears to be unique as the writer knows of nothing else like it in the region.

All of the Lancaster county specimen resemble those from Yadkin county, North Carolina. (Compare with Plates CXIII *d*, and CXXXII *e*, 20th An. Rep. B. A. Eth., by Wm. H. Holmes. This plate is about $\frac{3}{5}$ actual size)

DESCRIPTION OF PLATE NO. 21

All of the specimens of pot rims shown in this plate are from Shawnee Flats, Plymouth, Penn'a. With few exceptions they are types common to Wyoming Valley. Figs. 1 and 3, both in material and general features, resemble southern pottery, as though they had been brought bodily from that region.

Figs. 1, 2 and 3 show no collar and are classed by some good authorities as distinctively Algonquian types.

In Fig. 6, the lines running around the collar were made with a twisted or plaited fibre, which is not common in the region. Compare Fig. 9 with Fig. 2, Plate No 20, Carbon county.

Figs. 13, 14 and 15 are illustrated as showing the coil method of building up a vessel, 13 and 15 showing the wide bands used and 14 the extreme base where the coil started from a centre. These features show much better in the actual specimens than in the picture.

The plate is $\frac{2}{5}$ actual size. (See description of Shawnee Flats with Camp and Village Sites.)

This locality has been productive of many fine potsherds and the large vessel shown in Plate No. 3 was found here.

The photographs are so clear that further description seems superfluous.

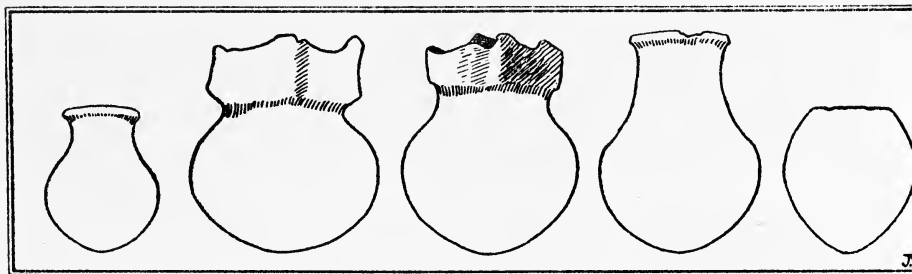


Fig. 7. Outlines of Clay Pots in collections of Wyoming Historical and Geological Society (from sketches).

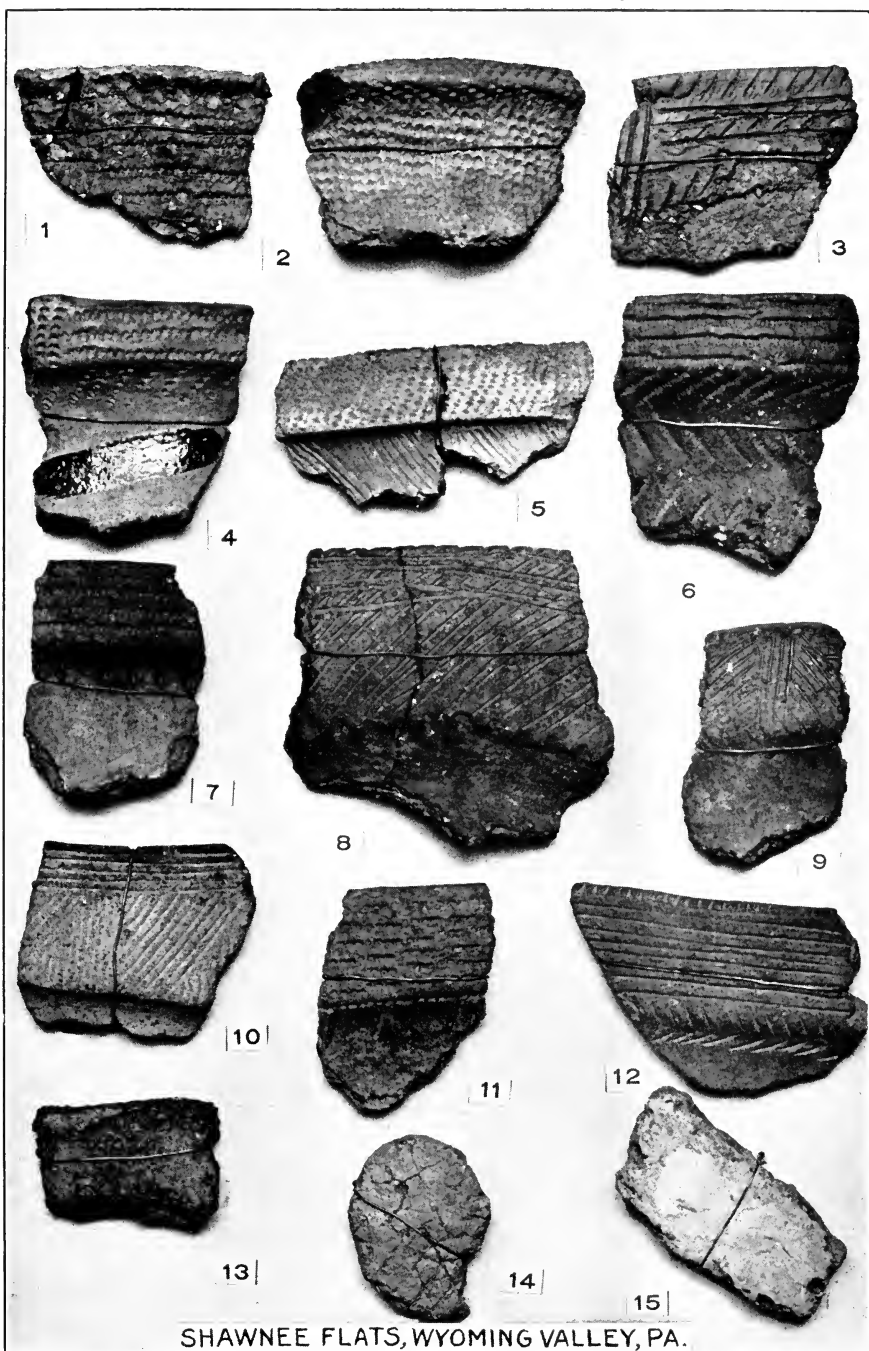
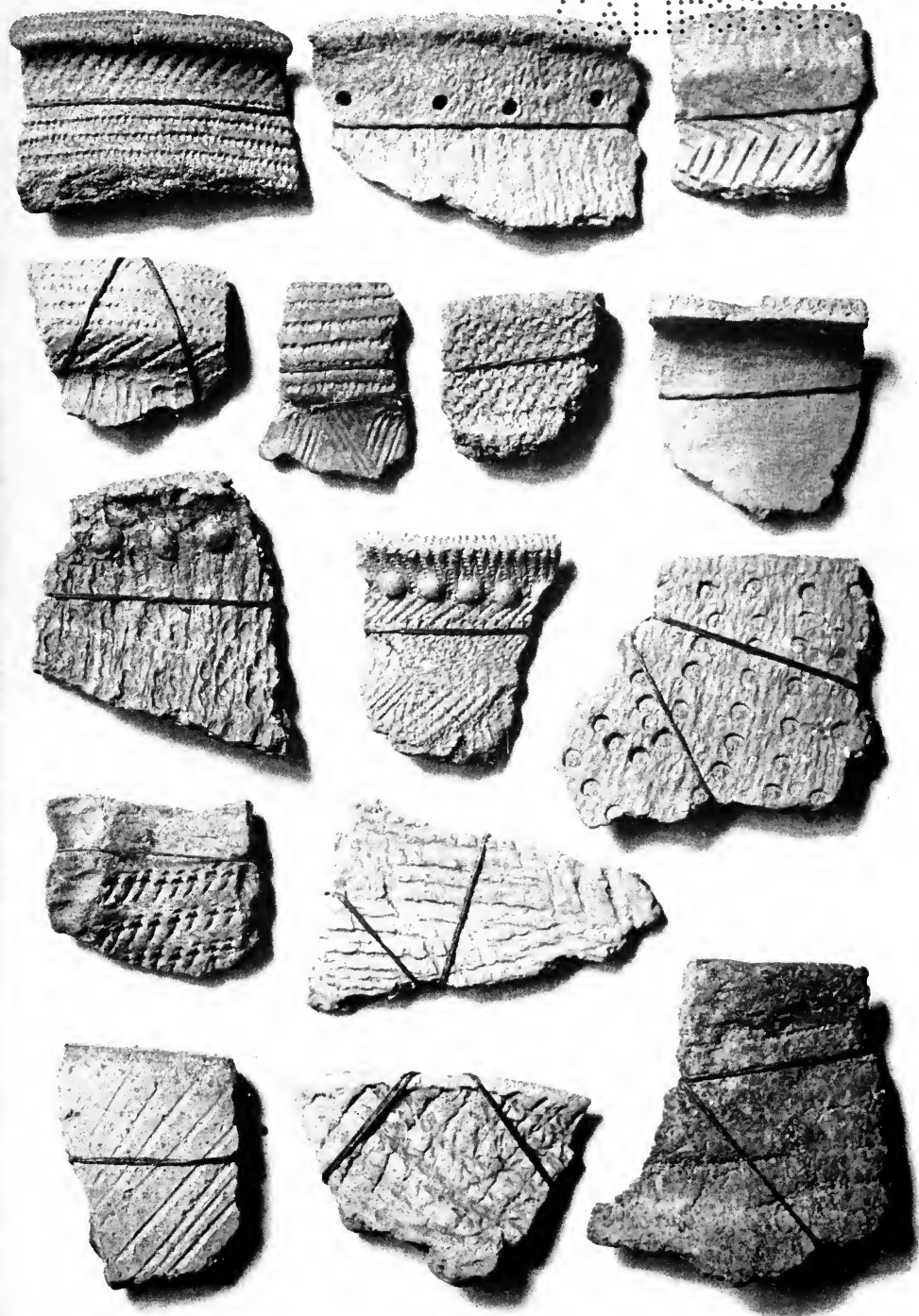
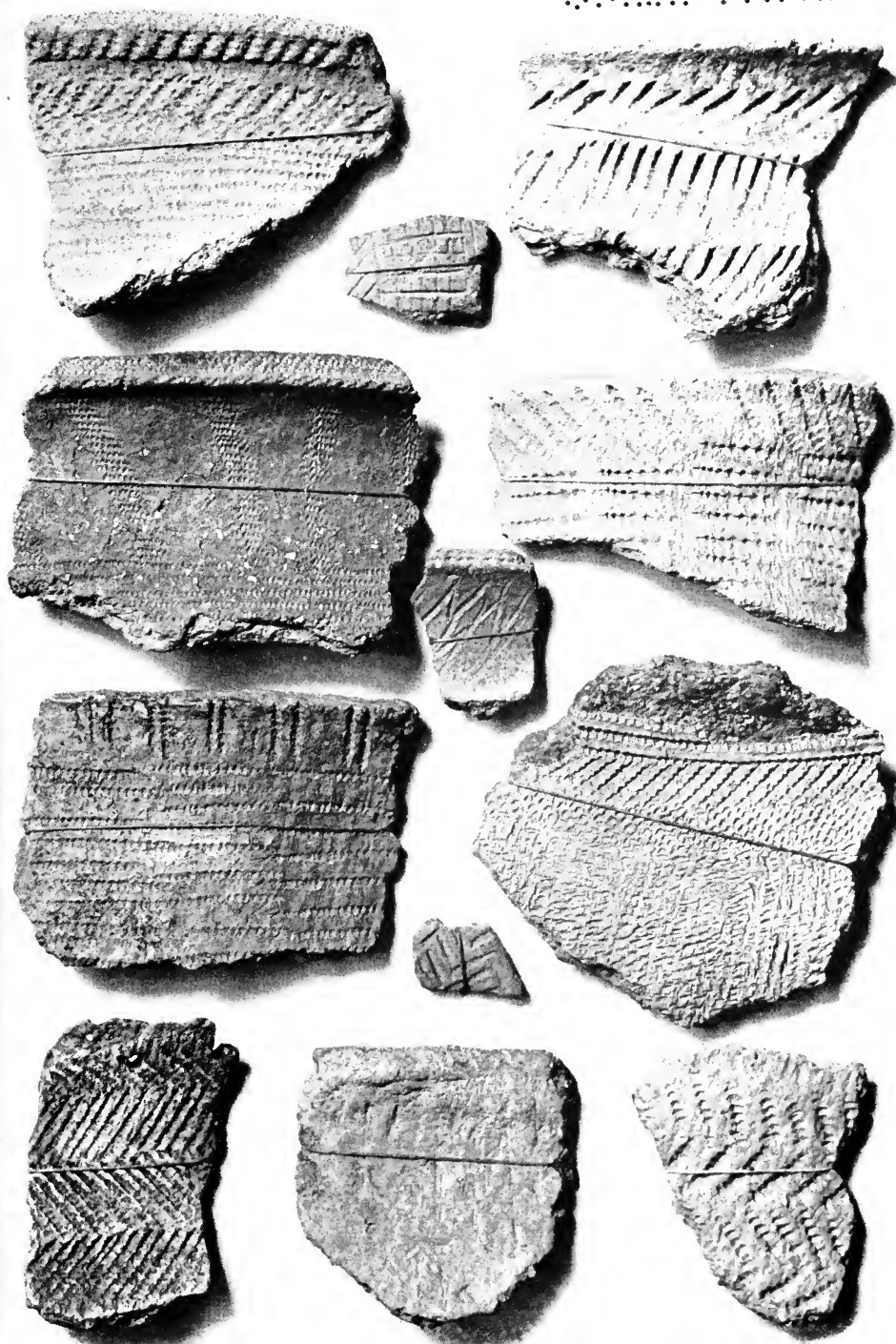


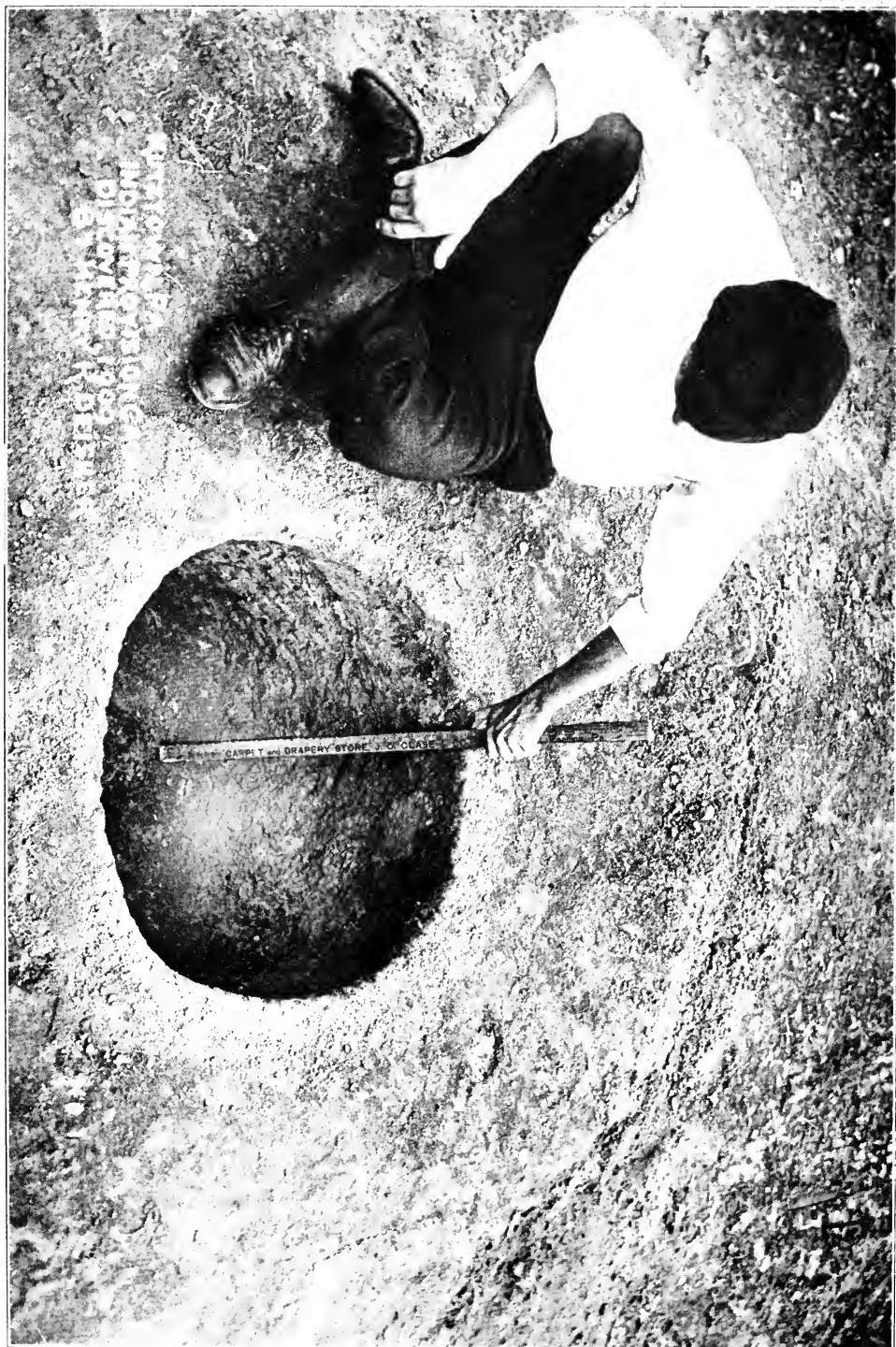
Plate No. 21. Potsherds, Shawnee Flats, Wyoming Valley, Pa. (About two-fifths actual size.) (Wren.)



TO THE
AMERICAN



TO THE
ALPHABET



PHOTOGRAPH
BY
J. H. HARRIS
AT
CHICAGO, ILL.
JANUARY 1911

TO VINO
ALBANO

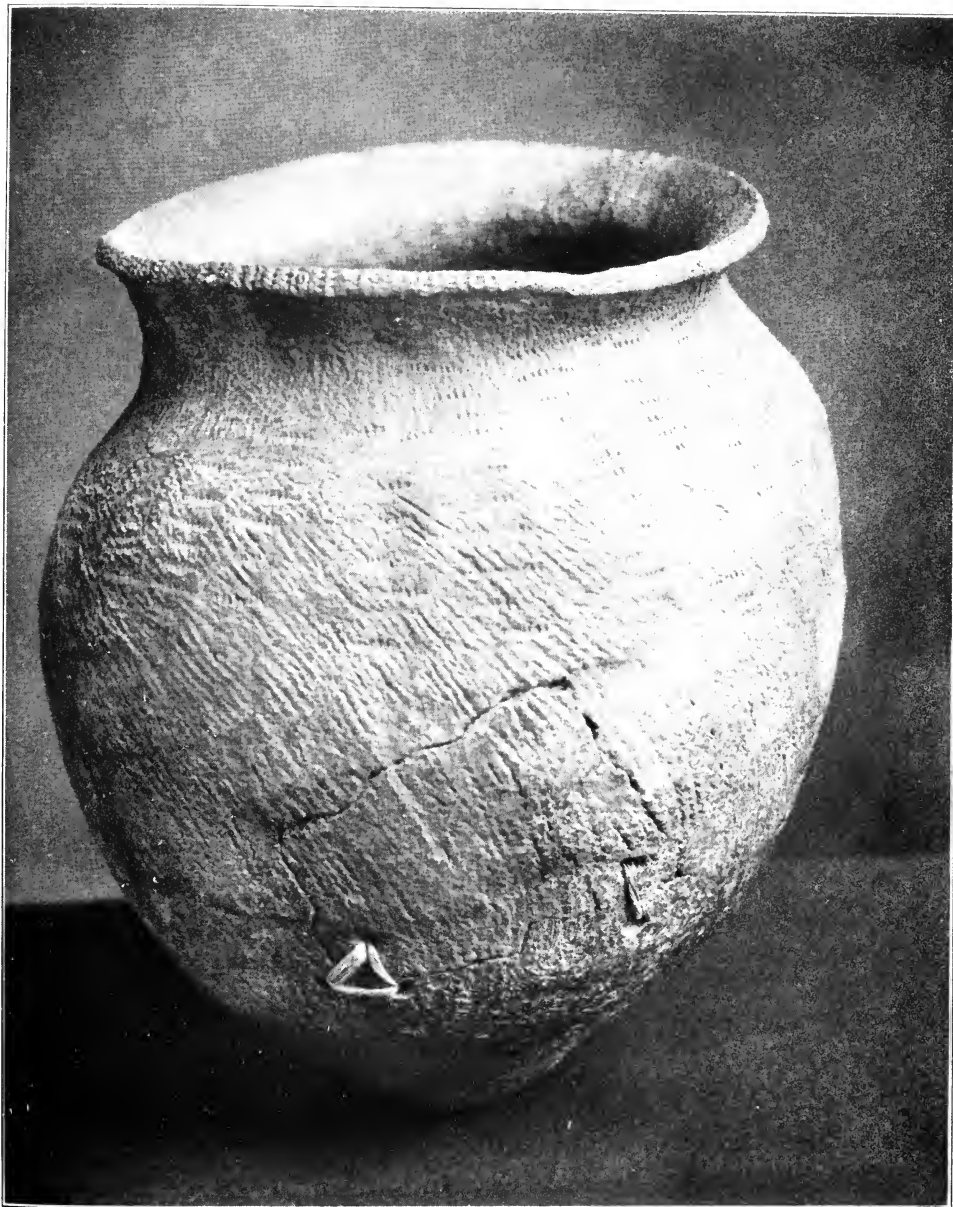


Plate No. 24. The H. K. DEISHER POT, KUTZTOWN, BERKS CO., PA. 10 $\frac{1}{2}$ inches high.
(Courtesy of Mr. Deisher.)

12-11-1910
ALPACILLA

PLATE NO. 24.

Plate No. 24, the H. K. DEISHER POT was found, by the gentleman whose name has been given to it, on August 21st, 1909, on his town lot facing Normal avenue, Kutztown, Berks county, Penn'a. It was buried beneath the surface, *not in a grave.*

With it were associated a quartzite digging tool, a smooth flat pebble, charcoal and some flint chips.

Kutztown is located midway between Allentown and Reading, Penn'a, in a beautiful valley well watered by good sized mountain brooks which have their sources in the high hills adjacent to it. In these hills are located the jasper quarries from which the fine blue, red and yellow jaspers, so much used by the Indians in eastern Pennsylvania, were procured.

Mr. Deisher told the writer some years ago that he had never found a single clay potsherd in the region in twenty-five years collecting, and he doubted whether clay pottery was used there. The writer however, in a walk through the fields found a small piece, about as large as the first joint of the thumb, which was a great surprise.

The fine vessel shown in the plate is about $10\frac{1}{2}$ inches high and $10\frac{1}{2}$ inches in diameter and has a well defined conical base. When found it was badly shattered but has been well restored.

A unique feature about this vessel is that it was broken while still in the hands of its Indian owner and had been mended by drilling holes in the fragments and tying them together by means of some kind of a thong.

The fact that so much care had been taken to mend it may indicate that clay pottery was not common in the region and that what there was of it was highly prized. In the restoration Miss Baker has followed the same method of mending as the Indians used.

PLATE NO. 27.

This plate illustrates a type of implement or tool the uses of which are not as yet fully understood. They seem to be peculiar to the valley of the Susquehanna river in Pennsylvania, and to be most numerous along the north branch from Northumberland to Wyoming Valley.

In shape they resemble a flat plate and are made from a laminated stone, not water worn, which was adapted to the purpose. The edges are nicely chipped on both sides, and, like ordinary net sinkers, made from water worn pebbles, there are two notches on the outer edge directly opposite each other. The edges are worn smooth, showing that there was friction at that part of the implement in some use which was made of it.

These disks are found scattered on camp sites and they are also found in caches of a dozen or two, indicating that there were times when the entire lot was all used together. The writer thinks that this use was net sinkers for the drag nets or seines used in shad fishing, which was much followed along the Suquehanna river in early times, both by the Indians and the white people.

Other uses which have been suggested for these disks are as hide fleshers, for scaling fish, pot covers and the writer suggests their use as a tool for smoothing out the inside of a clay pot in the making.

They seem to be associated with localities where pottery is found and are not seen at West Nanticoke and Hunlocks creek, where no clay pottery is found.

It is no doubt true that the American Indians used the same tool for several purposes to which it was adapted, and, as has been said under a description of the shapes of pots, this implement seems to be specially fitted for use as a pot cover.

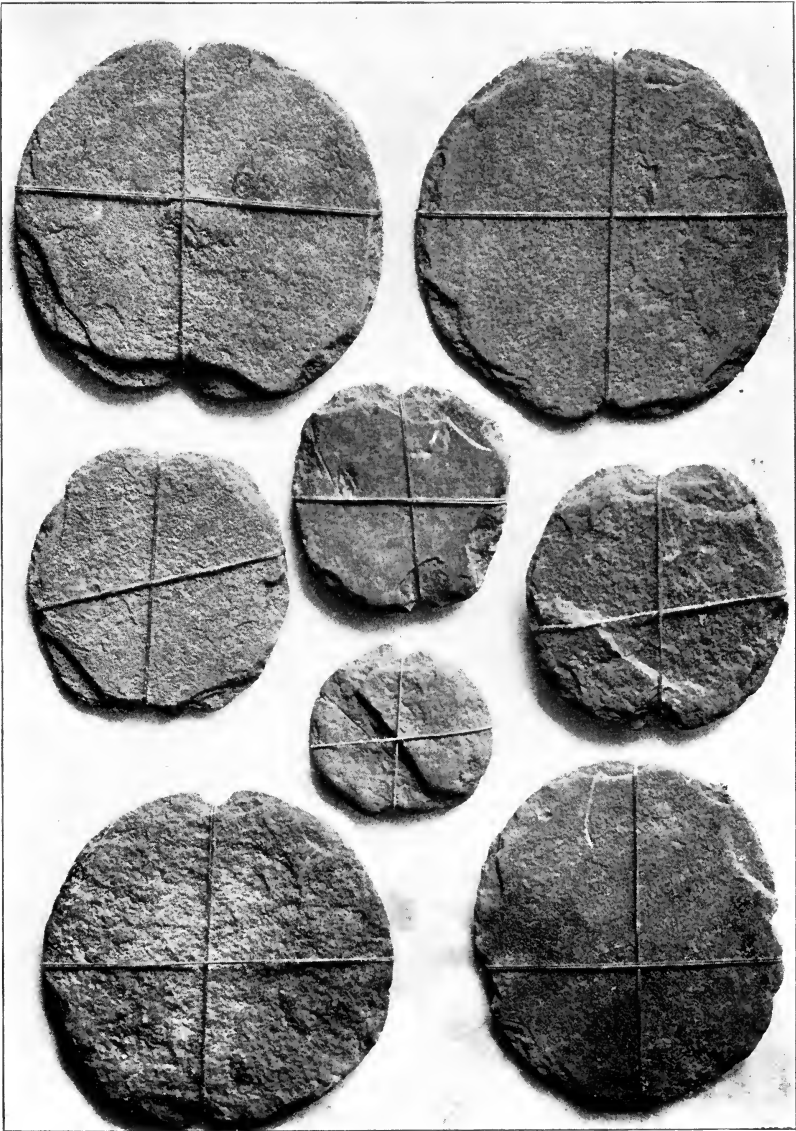
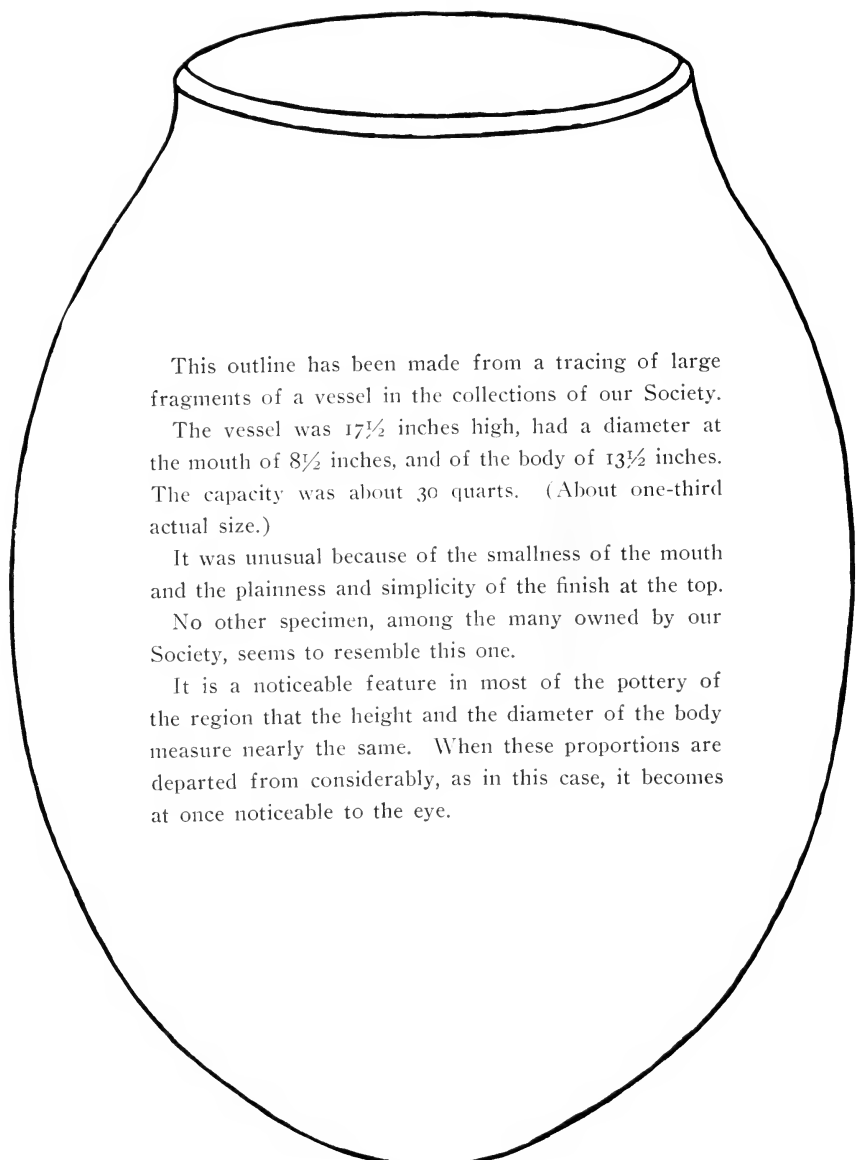


Plate No. 27. Notched Disks (one-third actual size). In the collections of the Wyoming Historical and Geological Society, Wilkes-Barre, Pa.
(From Vol. VIII, Wyo. Hist. and Geo. Soc. Wren.)



The vessel was 17½ inches high, had a diameter at the mouth of 8½ inches, and of the body of 13½ inches. The capacity was about 30 quarts. (About one-third actual size.)

No other specimen, among the many owned by our Society, seems to resemble this one.

It is a noticeable feature in most of the pottery of the region that the height and the diameter of the body measure nearly the same. When these proportions are departed from considerably, as in this case, it becomes at once noticeable to the eye.

Plate No. 26. Fragments in Wyoming Historical and Geological Society, Wilkes-Barre, Pa.

STEATITE (OR SOAPSTONE.)

In the region of the junction of the two branches of the Susquehanna river, at Northumberland, Penn'a, whole vessels made of steatite are very rare. This holds good at least up the north branch of the river. In the collections of the Wyoming Historical and Geological Society, at Wilkes-Barre, Penn'a, there is but a single specimen which is nearly entire. It is a small boat shaped bowl with a handle at each end and was found some years ago at Plainsville, a few miles above Wilkes-Barre, and presented by Mr. Wm. H. Evans to our Society.

Fragments of what seem to have been quite large bowls have been found along the river, especially on the west side, from Northumberland to or beyond the New York State line, and there are in the collections of the Society many such pieces. Mr. L. D. Shoemaker, of Binghamton, N. Y., says that such fragments of broken steatite vessels are quite plentiful in his locality.

From the fact that steatite and also rhyolite from the quarries near Gettysburg, are found in quantities on the *westerly side of the Susquehanna river*, while there is an absence of pottery and the yellow, red and blue jaspers from Berks and Lehigh counties and of the argillites from the Delaware Valley, except in a few localities, on that side of the river, may raise the very interesting question as to whether the Susquehanna was not a well defined dividing line recognized among different branches of the Indian nations. It is noticed also as an interesting fact that the jaspers of Berks and Lehigh counties and the argillites of the Delaware Valley are plentiful on the eastern side of the river and that clay pottery was much made and used on that side of the river.

These conditions may indicate that the Susquehanna along its entire course through the state of Pennsylvania was accepted as a line of division in Indian days.

A notable exception in the distribution of materials, just mentioned, occurs at Shawnee flats, about three miles from the lower, or western, end of Wyoming Valley. At this point eastern jaspers are plentiful, fine pottery was much used, the Gettysburg rhyolite is plentiful, in at least one location, and steatite is sometimes found.

While it is well known that fine clay pottery was made by the southern Indians, who on this theory kept on the western side of the river, may it not be that they exercised their claim to certain rights along the Susquehanna river, only by periodical visits for hunting and fishing? That in those visits they brought with them only their steatite vessels, which would stand risks of transportation much better than the fragile pottery ware?

It may be only a coincidence, but both the large steatite bowls shown in Plate No. 12 and the one shown in Plate No. 28 were found on islands in the Susquehanna river. Could they have been brought up from the south to serve the purpose of cooking the food at conferences or councils between adverse interests which were held on these islands, which might have been looked upon as neutral ground? Future investigations may corroborate the theory here advanced that the river was recognized as a line of division in the manner here suggested. (See also remarks under Wyoming Valley.)

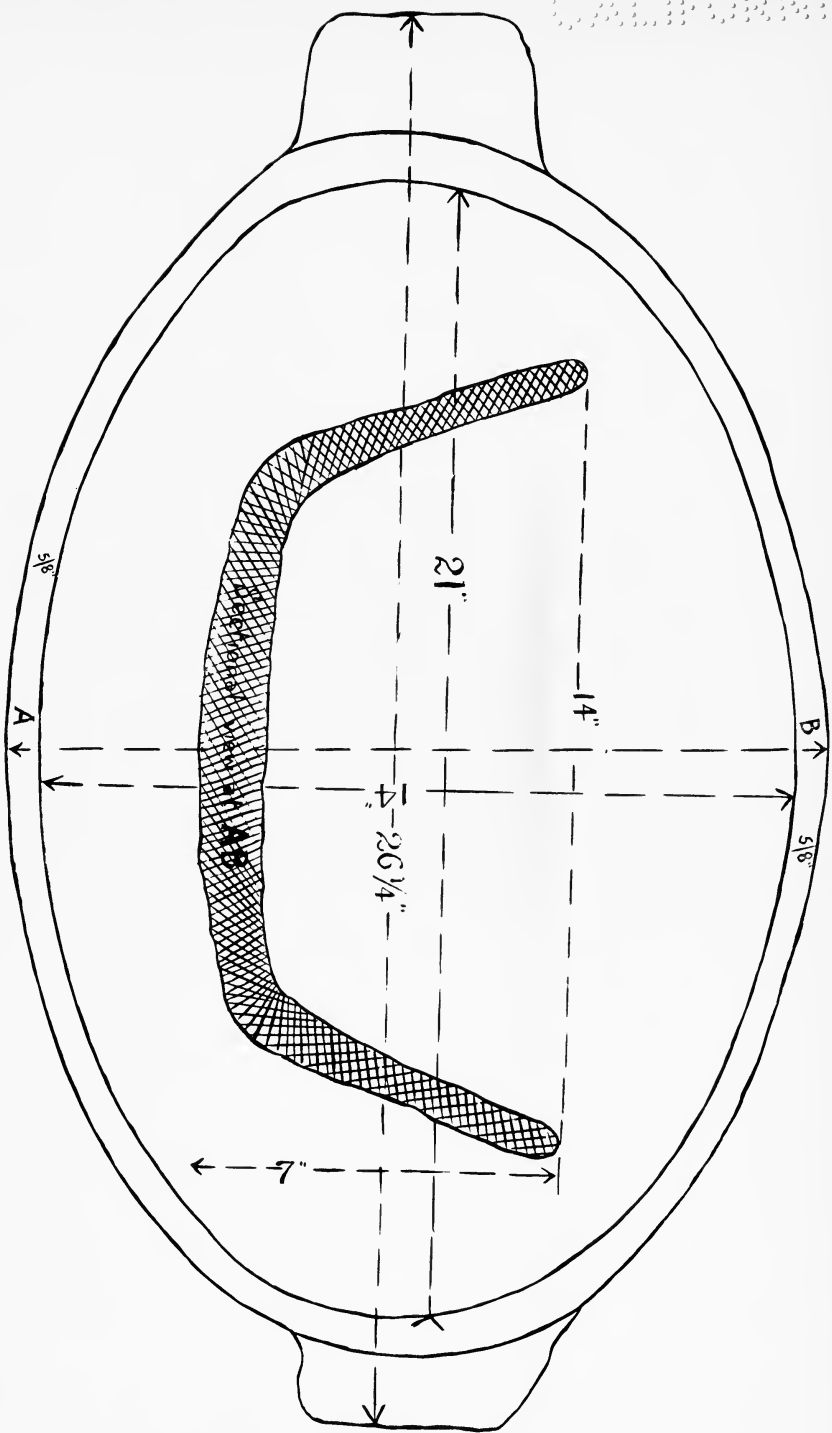


Plate No. 28. The SCOVELL ISLAND Steatite Bowl (restored). In the collections of The Wyoming Historical and Geological Society, Wilkes-Barre, Pa. (About one-third actual size.)

("Scovell Island" was known to the Indians as Lackawannock Island. The "Scovell Island Bowl", having been found by Messrs. Tilghman and George, as described, they desire that it be known as the Tilghman-George Bowl in the Collections of our Society.)

DESCRIPTION OF PLATE NO. 28.

The remarkable large steatite bowl illustrated in this plate is reproduced in outline from large fragments of it in the collections of our Society.

We call this the SCOVELL ISLAND BOWL, and it was found on that island in the Susquehanna river above West Pittston, Penn'a, in the spring of 1913, by Edward Tilghman and Carleton George.

The vessel was found at the foot of the bank, on the westerly side of the head of the island, where the river had made inroads, and it was probably originally buried below the surface. At about the same place were found fragments of another fine steatite bowl very finely made.

The Scovell Island bowl measures $26\frac{1}{4}$ inches in greatest length, is 21 inches long inside the bowl and has an inside width of 14 inches. It is 7 inches deep and has a capacity approximately, of 24 quarts. The line sketch is about one third actual size. An idea may be gotten of the size of this specimen by placing a rule on the plate and extending the drawing to the length.

Mr. Tilghman says that he thinks there were three handles on the vessel as he had another one which seemed to belong to it. If this was the case it is likely that there were two additional handles, for supporting the weight, located on the sides, but the pieces we have do not indicate such extra handles. Vessels made of steatite are usually quite small, not exceeding six or seven inches in length. (See Plate No. 30.)

Compare the Scovell Island bowl with a similar vessel, illustrated as Fig. 505 in Vol. II of Moorhead's "Stone Age of North America."

DESCRIPTION OF PLATE NO. 29.

This plate illustrates the steatite quarry at Clifton, Va., and shows how the vessels were very largely worked out before they were detached from the ledge. They were thus firmly held in place while the workman was cutting away the surplus material. A detailed description is given of this quarry by Wm. H. Holmes in the 15th An. Rep. of the B. A. Eth.

This quarry, located near Clifton, Fairfax county, Virginia, was discovered in 1893 and was uncovered, under the supervision of the National Museum, the next year. The main trench which the aborigines had sunk in the steatite ledge was 25 feet wide, 16 feet deep, and it had been driven forward into the hillside about 65 feet. "Almost the entire excavation had been carried out of the solid steatite by means of stone picks and chisels, and all the evidences of the cutting and sculpturing—even the whitened surface of the tool marks—were as fresh as if the work of yesterday."

It is quite probable that the steatite found along the Susquehanna river was brought from this locality in Virginia. Chemical analysis of the material ought to determine whether this is correct.

DESCRIPTION OF PLATE NO. 30.

Plate No. 30 shows a series of steatite stone vessels in progressive stages of manufacture. The marks of the stone tools are plainly indicated, as they are on all fragments found of such vessels. (Compare these small vessels with those shown in Plates Nos. 12 and 28 of this paper.)

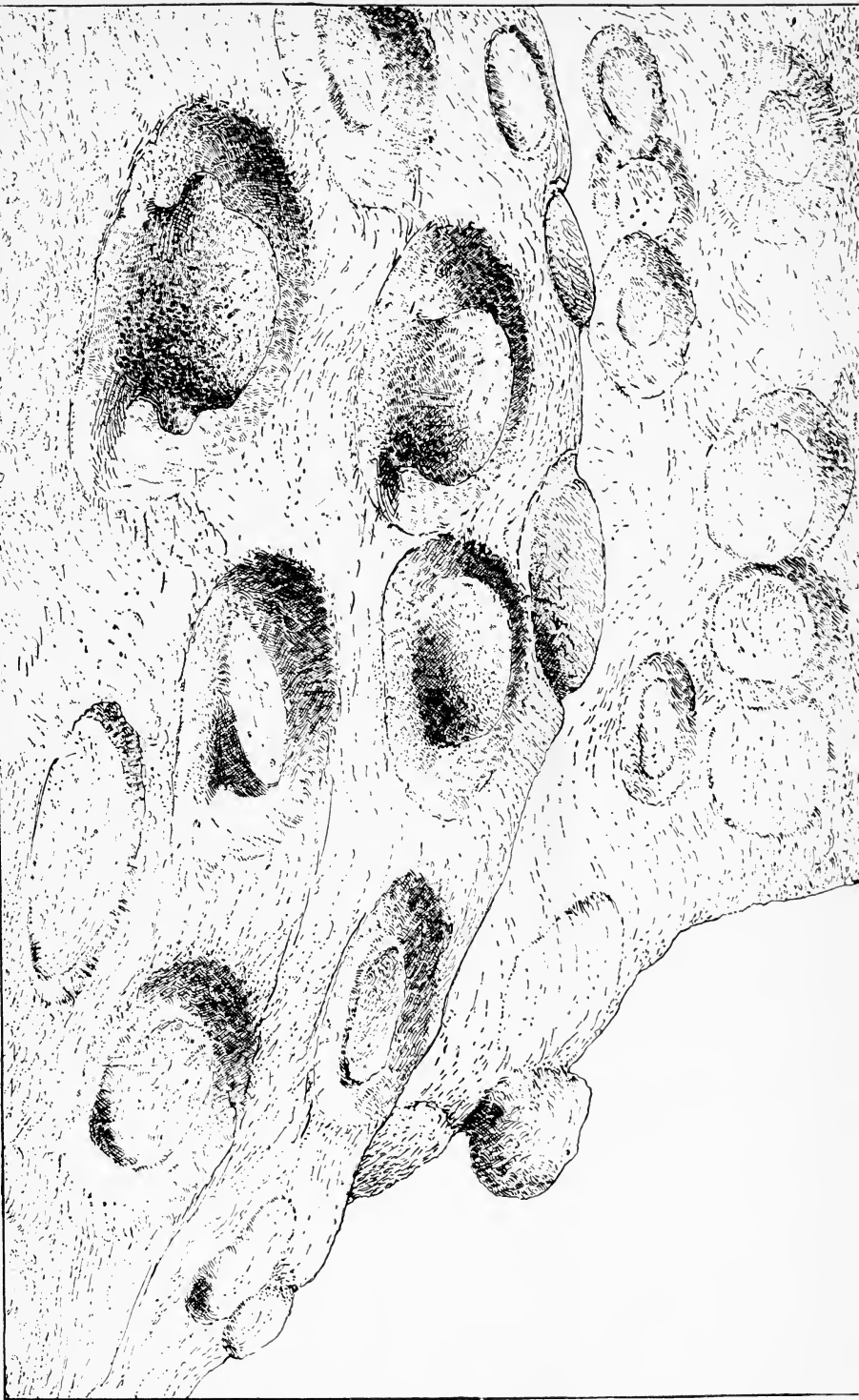


Plate No. 29. View of Steatite Quarry, Clifton, Va., copied from Plate No. LXXVI, 15th An. Rep. B. of A. Eth.
William H. Holmes. (By courtesy of U. S. National Museum, Washington, D. C.)

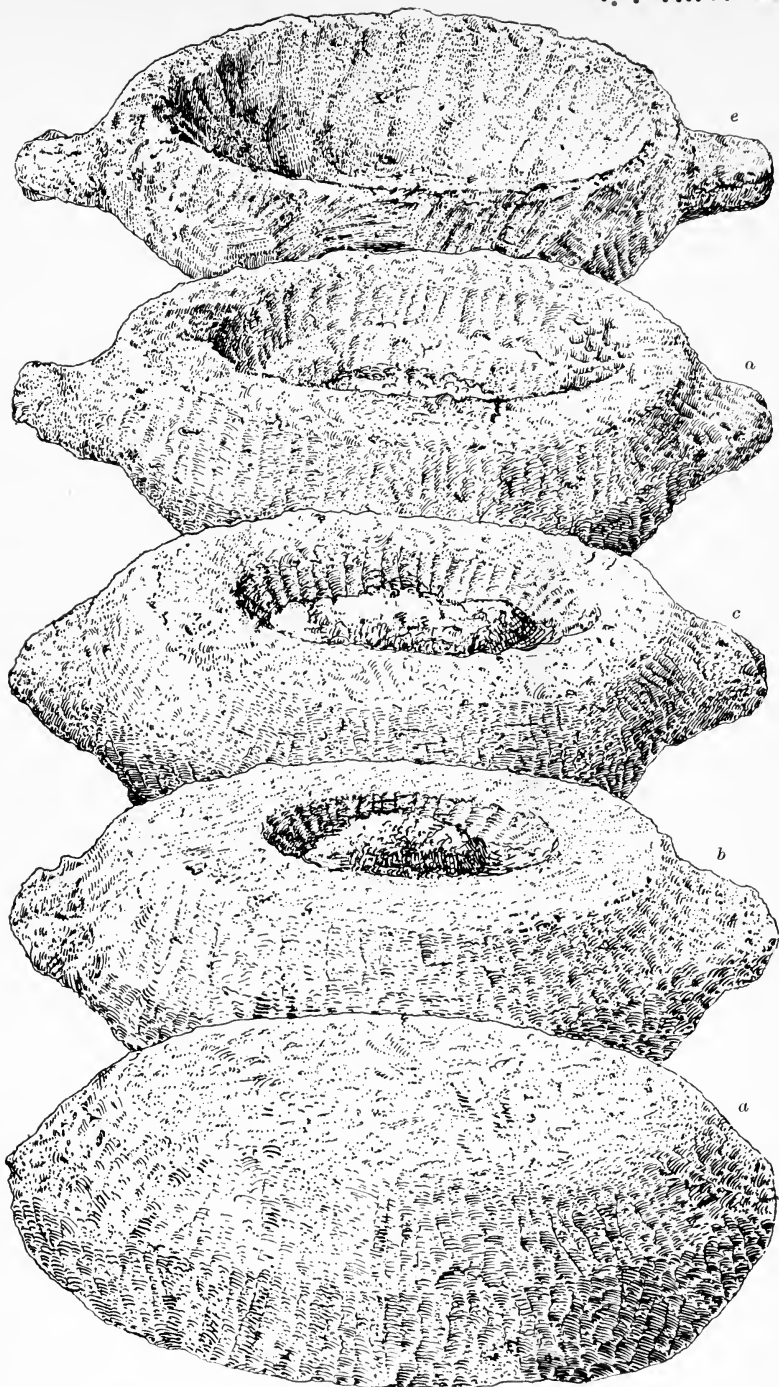


Plate No. 30. Steatite vessel in process of making (about one-third actual size). Copied from Plate No. LXXVIII, 15th An. Rep. B. of A. Eth., William H. Holmes. (Courtesy of U. S. National Museum, Washington, D. C.)

CAMP AND VILLAGE SITES.

Under this heading the opportunity is taken to say a few words descriptive of the locations which are mentioned in this paper as places where some of the specimens illustrated were found, with the object of informing the reader, and especially the student, more exactly as to the circumstances surrounding the different vessels herein described.

WILD CREEK KETTLE.

In Towamensing township, Carbon county, Penn'a, where a smaller creek forms a junction with Pohopoco creek, the action of the running waters have formed an open space, surrounded on all sides by hills. The location is known locally among hunters, who are about the only ones who visit it, by the name of Wild (or Wills) Creek Kettle, probably because of a fancied resemblance to a great kettle or cauldron. It is a very secluded place, somewhat removed from one of the small valleys which runs in a southwesterly direction from Stroudsburg on the Delaware river to the vicinity of Tamaqua on the Schuylkill river. The locality is about nine miles from Mauch Chunk and the same distance from Weissport, Penn'a, both towns located on the Lehigh river.

About the year 1886 several hunters, who had gone into the hills to hunt foxes, "holed" their quarry in a ledge of rocks, in this location, somewhat up the hillside. In their efforts to dig out the fox, they came upon the two clay vessels shown as Fig. 4 in Plate No 7, and Fig. 1 in Plate No. 9. After debating whether they should not set the pots up as a mark and shoot them to pieces, they decided to take them home with them to Weissport. Fig. 4 was destroyed by a fire which burned the house of its owner about the year 1905, after his refusal of several offers to buy it. The illustration is made from a tintype, which was taken about the time it was found. Fig. 7 is now in possession of Mr. A. W. Gimbi, of McAdoo, Schuylkill county,

Penn'a. The photographs of both of these vessels were furnished by Mr. Gimbi to be illustrated.

Mr. Gimbi and a man named Whitaker visited the location a number of years ago and, by passing the earth on the floor of the "kettle" through a sieve, secured some triangular arrow points, a few other impletments and a number of potsherds, some of which are shown in Plate No. 20 under "Carbon county."

WEST NANTICOKE AND HUNLOCKS CREEK.

At West Nanticoke, in the extreme western end of Wyoming Valley proper, where the river passes out of the valley by going directly through the mountain, there is a narrow plateau on the river bank, above the mouth of Harveys creek. There is very much evidence of the occupancy of this location by the Indians. Fire stones are seen in wagon loads and great quantities of the gray rhyolite from Gettysburg, both in flakes and finished impletments, have been found here. The location is mentioned here because of the extreme scarcity of clay pottery noticed and also because soapstone was quite plentiful, as has been mentioned elsewhere in this paper. The ground has been so much hunted over since the freshets in 1902 and 1904, which cut away the soil down to the level at which the Indians lived on it, that but few finished artifacts are to be now found. Rhyolite chips are still plentiful.

At Hunlocks creek, located about two miles down the river from West Nanticoke there is also this entire absence of clay pottery, while fragments of soapstone vessels are frequently found and flakes of rhyolite and finished impletments of that material have been very abundant. A trail running north and south seems to have crossed the river at this point, passing into the back country to the northward through the notch in the mountains.

THE NANTICOKE FLATS.

The Nanticoke flats are on the southerly side of the Susquehanna river at the westerly end of Wyoming Valley, and occupy the low lying lands between the town of Nanticoke and the river.

The land is among the best farming land in the valley and produces fine crops every year. They run along the river for a distance of about a mile and a half.

Because the surface at this point is somewhat higher than in many other parts of the valley, the freshets in the Susquehanna have not disturbed the surface soil as much as elsewhere. For this reason the evidences of Indian occupancy have not been laid bare to as great an extent as at some other points.

After the great flood of 1902, however, when the river rose about thirty-two feet above low water mark, the writer found the locations of several camp or village sites, and secured specimens of clay pottery, indicating that pottery was used on this side of the river, which seems not to have been the case nearly directly across on the other side, as has been already mentioned.

The "flats" got their name from the Nanticoke tribe of Indians, which had come up from the eastern shore of Maryland, and lived here for a time. They afterwards moved further north into the province of Ontario, Canada, where they are now living.

Because of inability just at this time to identify specimens of pottery from this location they are not illustrated in this paper.

THE DUNDEE FARM.

The Dundee farm is an arbitrary name given, by the writer, to the lands lying somewhat back from the river, and just eastward of the Nanticoke flats, on the western bank of a small stream which empties into the river at this point. The early name given to this location together with

other lands which adjoin it on the east, was, I believe, the "upper flats."

The surface of the Dundee farm is about thirty feet higher than the Nanticoke flats, and it was an ideal place for an Indian village.

The artifacts found at this place, including the pottery which was very plentiful, are of superior workmanship and finish. The village seems to have been a well established one from numerous specimens found there. Oscar J. Harvey, Esq., tells the writer that the Wanamie tribe of Delaware Indians occupied this site.

The clay pottery from Shawnee flats and Dundee farm seems to be the best in the Wyoming Valley, so far as they have come under observation.

This site will doubtless soon disappear, as the Delaware, Lackawanna & Western Coal Company has sunk a mining shaft 1,600 feet deep on this farm, and the debris from mining operations will soon cover the surface.

THE SHAWNEE FLATS.

Shawnee Flats, where many of the specimens of pottery which are illustrated in this paper were found, is on the northerly side of the Susquehanna river and in the westerly part of Wyoming Valley, Penn'a.

In the early settlement of the valley by the whites, it was a place of special importance, as the "flats," about one half miles wide and three miles long, contained some of the very best farming lands in Wyoming Valley, and all the people depended on farming for a subsistence.

The Indians too had appreciated the good qualities of the land for planting their crops; the river too bounding the flats on the south was well stocked with fish while the adjacent hills were fine hunting grounds.

The writer has located at least three village sites of considerable extent on this ground, which must have been much occupied, judging from the number of implements which have been secured there.

The Shawnee Indians who were ordered to remove to Wyoming, by the Iroquois, about the year 1728, located on these flat lands.

About the year 1701, two branches of the Shawnee removed from Lancaster county, Penn'a, one coming into Wyoming Valley, the other locating at Pechoquelin, on the Delaware river in New Jersey, (below Durham Iron Works). When the Shawnees of New Jersey were ordered to remove to Wyoming, as has been mentioned, they became united again with their people who had come up from Lancaster county in the year 1701. It is understood that their village was located on the Shawnee flats, and the site is still pointed out.

A description of some features of this locality is given in connection with Plate No. 3.

THE BUTTONWOOD FLATS.

What the writer has called the Buttonwood flats is on the southerly side of the Susquehanna river in Wyoming Valley, directly opposite Plymouth, Penn'a. The floor of the valley at this point is considerably higher than in most parts of the valley. At one point, which is not known to have been covered by any freshet, since the white people came into the valley, there was a much occupied Indian village, perhaps several, at different times.

Pottery was very much made and used by the people who lived here and a number of specimens are illustrated in Plate No. 22.

From the many pieces and whole implements made of yellow and red jasper from the Berks and Lehigh county quarries, it is plain that the people who occupied this site were well acquainted with that region, and either came from there or paid periodical visits to it to secure the material from which to make their arrow and spear points. Argillite from the Delaware river valley competes in plentifulness with these jaspers as to which is in the majority.

At one point, within an area of about a yard square, the writer picked up about a pint of red and yellow jasper chips from the secondary flaking, and he thought he had located the tent of the arrow point maker.

Many of the artifacts found here seem also to resemble those of the Iroquois of New York. The rhyolites from west of Gettysburg are almost entirely absent from this location.

As this paper is devoted to Indian pottery, no further comment is made on the materials found from different localities, a subject which offers abundant material for a paper in itself.

THE WILKES-BARRE FLATS.

About half a mile down the river from West River street, Wilkes-Barre, Penn'a, the river makes an abrupt bend to the westward. Right at this point there was an Indian village which extended some distance up and down stream. Some fine specimens of clay pottery have been found at this point after freshets in the river. The finest large fragment, now in the collections of our Society, was found here and is illustrated separately in Plate No. 16, and described in that connection.

It was at a point on the river bank near West River street that the noted Delaware chief Teedyuscung had his tent when living in the valley. It was there that he was burned to death in a fire which was supposed to have been started by some of his enemies, while he was under the influence of liquor, in the year 1763.

Many fine specimens of Indian artifacts have been secured on Wilkes-Barre flats in years past, but they seem to be scarce in these later years.

DORRANCETON FLATS.

Along the northerly bank of the Susquehanna river from Pierce street in Dorrancetown, Penn'a, to the bend of the river at Forty Fort the ground was occupied by Indian villages or camp sites. Especially the upper part of this

location was so occupied, as the evidences of the fires are plainly to be seen.

Pottery was used at this point, but the specimens secured by the writer do not show the same skillful or careful workmanship that is seen at some other places.

Yellow and red jasper arrow points of superior quality have been found on the Dorranceton flats some of which are in the collections of our Society.

THE WYOMING FLATS.

The Wyoming flats extend along the northerly bank of the river from Abrahams creek directly in rear of Forty Fort cemetery, up stream to the western end of Wyoming borough, a distance of somewhat more than a mile. On all this ground there are signs of Indian occupancy, but the writer has located only two points at which there seems to have been the concentration of a camp or village.

One of them is on what was until recently known as the Brodhead farm, directly toward the river from where Abrahams creek crosses Wyoming avenue. It was at this place that some of the specimens shown in Plate No. 18 were secured from Mr. John Sutter in 1913. The other site is farther up stream on what is known as the Thomas P. Hunt farm, about three hundred yards southward from the Wyoming monument. The people occupying this site made excellent pottery perhaps better than is found at most places in the valley. This farm has been occupied by Mr. T. H. Rinker for many years.

The Rev. Thomas P. Hunt was a Presbyterian minister, of well known characteristics to people living in the valley about forty years ago. He was an ardent advocate of temperance, and the writer remembers a visit of "Pappy Hunt" to the Presbyterian Sabbath school of which he was a member forty or more years ago. He gave a talk on temperance to the children, and one boy, at least, has a clear recollection

of a simple verse of rhyme which the reverend gentleman had the scholars repeat several times.

"I do not think I'll ever drink,
Whiskey or gin, brandy or rum,
Or anything that will make drunk come."

Some of the fragments of pottery collected on this farm are illustrated, in Plate No. 17.

OTHER CAMP AND VILLAGE SITES.

This paper being devoted to a description of clay pottery, no attention is given at this time to village and camp sites up and down the Susquehanna river from which no specimens of pottery are illustrated.

TENTATIVE CONCLUSIONS:

In an effort to suggest something definite about the eastern Indians, as an outgrowth of this paper, the following propositions are submitted:

1st. That the whole vessels illustrated in this paper indicate that most of the pottery of the region was made by people having different conceptions of form and decoration from the makers of the typical pottery wares of central New York.

2nd. That the indulgence in smoking was not a daily or common practice among the Indians of the region, and may always have had some special or ceremonial importance attached to it.

3rd. That the region was frequently visited by peoples living as far south as the state of Virginia, who left many signs of such visits behind them.

4th. That the finding of clay pottery and steatite on opposite sides of the Susquehanna river may indicate that the river was a well defined dividing line between different divisions of the aborigines, and that crossing from one side of the river to the other was not a common practice in "Indian days."

5th. That the direct influence of the Iroquois or New York Indians predominated at least as far south as Athens, Bradford county, Penn'a, and that it is more noticeable north and west of Muncy, Penn'a, and at Northumberland, where the two branches of the Susquehanna come together, than it is at other points in the field covered by this paper.

A WORD IN CLOSING.

The opportunity is here taken to return thanks for the universal courtesy and kindness that have been extended to the writer from every place in which he has sought for assistance. Without this help it would not have been possible to make such an exhibit of the pottery wares of the North Appalachian region as is here given. The works of other writers on Indian pottery have been freely consulted in the preparation of this paper, and the effort and intention has been to give due credit in all cases; if there has been any omission to do this it has been an unintentional oversight.

To the reader it may be said that together we have hunted the fields, dug in the earth, visited caves in the rocks, climbed mountains and crossed rivers and valleys to find our game, and we must now part.

In the final analysis the writer feels that the illustrations *of the things themselves*, speak far more forcibly than anything which he has been able to say. That, through their handiwork, these people still speak to us across the years which have passed since they lived; and that it is true, as was said at another time and in a different sense:

“By their works ye shall know them.”

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